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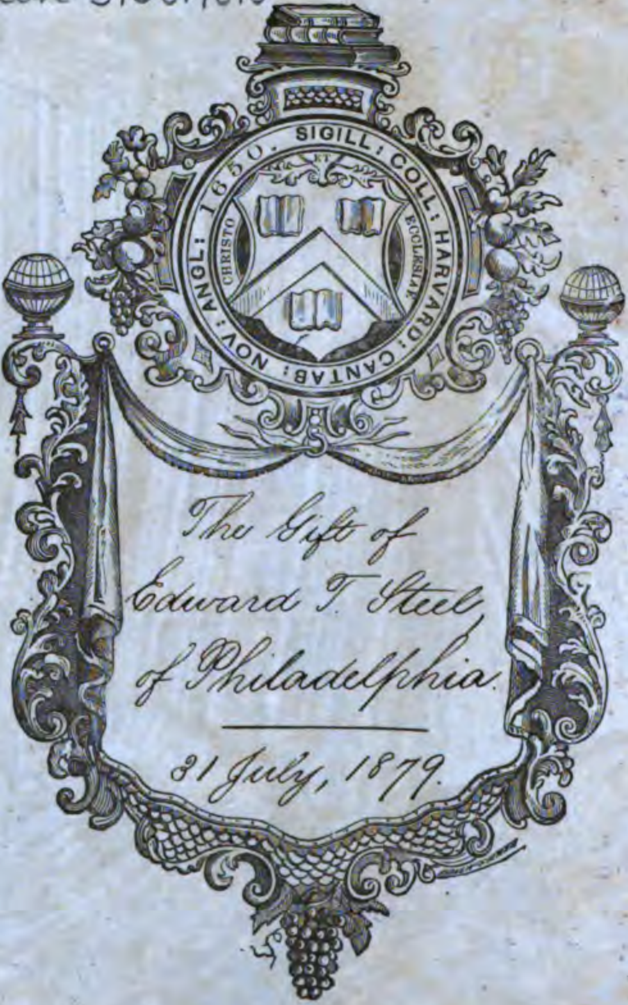

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CHRISTO ET ECCLESIAE

The Gift of
Edward T. Steel
of Philadelphia.

31 July, 1879.

United States Centennial Commission.

INTERNATIONAL EXHIBITION,

1876.

REPORT

OF THE

DIRECTOR-GENERAL,

Alfred T. Goshorn,

INCLUDING THE

REPORTS OF BUREAUS OF ADMINISTRATION.

VOL. II.

PHILADELPHIA:
J. B. LIPPINCOTT & CO.
1879.

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1879, July 31.
Gift of
Edward T. Steel,
of Philadelphia.

Entered, according to Act of Congress, in the year 1879, by the
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TABLE OF CONTENTS.

PAGE
REPORT OF THE DIRECTOR-GENERAL, A. T. GOSHORN 1

REPORTS OF THE BUREAUS OF ADMINISTRATION:

Installation—Henry Pettit 35
Art—John Sartain 131
Machinery—John S. Albert 161
Agriculture—Burnet Landreth 203
Horticulture—Charles H. Miller 263
Engineering—H. J. Schwarzmann 279
Transportation—Dolphus Torrey 307
Admissions—David G. Yates 431
Awards—Francis A. Walker 559
Classification and Catalogue—Dorsey Gardner 631
Medical Service—William Pepper, M.D. 641
Protection—The Director-General 677
Fire—Atwood Smith 699
Water-supply—Frederick Graff 707
Telegraphy—William J. Philips 721

ADMISSIONS.

REPORT OF THE GENERAL MANAGER

OF THE

DEPARTMENT OF ADMISSIONS.

To Amos R. Little, Esq.,
Chairman Committee on Admissions, Centennial Board of Finance.

Sir,—The following account of the proceedings of the Department of Admissions is most respectfully submitted. **Department of Admissions.**

This Department was created December 1, 1875, when my appointment as General Manager was made by the Board of Finance and approved by the Director-General. **Appointment of General Manager.** The General Manager so appointed was authorized to organize and direct the Department under such rules and regulations as the Committee on Admissions might approve and the Board of Finance adopt. **Organization of Department.** The most important labor of this Department was the maturing of a plan of admissions that would successfully protect the revenues of the Exhibition alike from the efforts of the most ingenious and skilled talent, which, from the generally believed magnitude of the enterprise, would be likely to engage in schemes to imitate or counterfeit whatever ticket of admission might be adopted, and at the same time secure absolute protection from wrong-doing by any of the men employed to execute the plan. **Plan of admissions.** This subject has never been considered a slight task in undertakings of much less magnitude.

It was at an early day determined that the fifty-cent note or piece of money issued by the National Government should be the recognized ticket of admission. **The ticket of admission.** The wisdom of this decision was fully demonstrated by experience, and is discussed in a more advanced portion of this report.

The grounds occupied by the Exhibition were irregularly shaped, and comprised 285 acres of the Fairmount Park, encircled by an open fence-line 16,000 feet in length. **Dimensions of inclosure.** In this fence-line there were

Department of Admissions.

placed 106 entrance gates for persons, 17 for wagons, and 41 exit gates, so placed as to serve the convenience of those using them.

Classes of gates.

The 106 gates for admitting persons were divided into classes to correspond with the classes of tickets used, as follows:

Class A, for those who paid a fifty-cent note or piece.

Class B, for those holding complimentary letters of invitation.

Class C, for exhibitors, attendants, and workmen.

Registering turnstile.

Each gate was supplied with a strongly-built turnstile, which gave the gate-keeper absolute control over the passage-way into the Exhibition grounds. This turnstile was connected with a register, which recorded each admission, and at the end of each period of duty the gate-keeper was held responsible for the admissions as shown by the register. In addition to the register above mentioned each of these entrance gates, regardless of its class, was supplied with a box, which was securely locked to the turnstile in such a manner as to receive money and tickets deposited by the stile-keeper through an opening in the turnstile counter,—the opening in the box being closed by the act of unlocking it from the turnstile.

Money-boxes.

Centennial National Bank.

The Board of Finance having opened an account with the Centennial National Bank, that institution counted the contents of the boxes in use at the money gates; and the gate-keepers at such gates, when relieved from duty, delivered their boxes at the bank, and took its receipt therefor. The boxes in use at the other classes of gates were returned direct to the office of the General Manager, and by him transferred to such clerks as had charge of that class of work.

Wagon gates.

Wagon gates were located on every roadway leading into the grounds, and were designated by the letters of the alphabet. Through these gates, under the regulations prescribed, all supplies and material needed within the inclosure entered and all waste passed out. All military and organized bodies were admitted through them. At these gates the tax on mineral waters and malt liquors was collected by the gate-keepers.

Gates for school children.

Gate A, immediately adjoining the office of this Department, was used exclusively for school children, except on special days and general holidays, when gates H, M, S, and T were also used for the same purpose. Communication from the inside to the outside of the grounds for persons was made by exit gates. They permitted egress only, required no attendant, and were the object of much curiosity to the uninitiated. They were built of wood, and, except on special days, satisfactorily and speedily emptied the grounds. They were located at every group of entrances, and unlocked until nine o'clock in the evening. Their efficiency was frequently tested

Exit gates.

Department of Admissions.

by the inquisitive, who found to their mortification that they were only what their name implied,—exit gates,—and those who used them were placed outside of the Exhibition.

Classes of tickets.

An essential part of the plan was the determination of the tickets of admission for the different classes of persons attending the Exhibition. They were divided into classes A, B, and C, as has been previously mentioned in describing the gates provided for them.

The fifty-cent note or piece.

Class A, for those who paid. For this class the ticket of admission determined upon was the fifty-cent note or piece of Federal money. When the money-box was taken to the bank at the end of a given period it was required to contain as many half-dollars as the register, in connection with the gate, indicated for that same period. And the gate-keeper, who was under bonds, was required to make up any shortage, or make good any counterfeit money.

Complimentary letters of invitation.

Class B, for complimentaries. To this class there was issued an engraved letter of admission, "not transferable," and so engraved upon its face, which was inclosed in an engraved envelope. On the letters of admission were engraved the instructions to the holder to deposit his personal card with the gate-keeper, as a basis of statistics. The Department made use of the cards so deposited as a check on the gate-keeper, requiring as many cards to be contained in the box as there were admissions recorded by the register. The gate-keepers in charge of this class of gates were provided with blank cards, for such holders of complimentary letters of admission as came without personal cards.

Class C, for exhibitors, attendants, Custom-House officials and employees, officers of the guard, members of the press, employees of restaurants and other business enterprises conducted within the grounds, and clerks and attachés of the different bureaus and departments of the Exhibition. To this class was issued the photograph ticket, which was in the form of a book-cover, and engraved by a bank-note company. On the front the number of the ticket, the name of the holder, and his or her relation to the Exhibition were fully set forth. On the border of the inside a space was set apart for each day that the Exhibition was open, and its date engraved thereon. Detailed instructions as to how to use it were engraved upon the left-hand side, and on the right hand side was set apart a space, of well-defined size, to be occupied by a photograph of the holder, which was encircled by the seal of this Department. Upon presentation at one of the class of gates reserved for photograph tickets, the photograph was compared with the holder, and if satisfactory to the gate-keeper, the space upon which the date of the day

The photograph ticket.

Department of Admissions.

of presentation was engraved was cut out by a self-registering punch. To provide for another admission the same day, it was necessary for the holder to secure a return pass check before leaving the grounds, which could be obtained from officers at exit gates by presenting his photograph ticket and going out. These return pass checks differed in color on different days, and were dated: they were not good for an admission on any other day than that of date. The Department exercised its control over keepers of this class of gates by requiring the return pass check and punch to show as many admissions as were shown by the turnstile registers. The stamping of the photograph at the office, and the refusal to permit the tickets to be used on which the photographs were not stamped, prevented the use of this class of tickets by any other than those to whom they were issued.

Return pass checks.

Workman's ticket.

Besides the above classes of admissions, provision was made to admit, at a limited number of gates, such workmen as were needed on the grounds before 8 o'clock A.M. Three gates were reserved during the Exhibition, two of which were used by the members of the Guard and Fire Departments attached to the Exhibition, who were admitted upon the presentation of a pass properly countersigned by the officers in command of those departments respectively. All special and exceptional cases which arose were provided for at these gates, which were kept open at all hours.

Gates for Guard and Fire Department.

Exchange offices.

The distribution of tickets of the different classes was effected first to Class A, for those who paid, by means of money exchange offices stationed at every group of entrances in the fence-line. They were officered by the attachés of the bank, and the public was supplied with the recognized ticket of admission in any quantity applied for.

Those to whom complimentary letters of invitation were issued.

To Class B complimentaries were issued to a very limited number, being those whose official position demanded recognition by the Exhibition. In such issue this Department exercised no discretion, but promptly filled every requisition which was made upon it, conjointly signed by the President of the Centennial Commission, the President of the Board of Finance, and the Director-General.

The officials placed in this class were:

1st. Members of the United States Centennial Commission.

2d. Members of the Centennial Board of Finance.

3d. Members of the Woman's Executive Committee.

4th. Members of the State Boards (five passes to each State).

5th. Members of the Board representing the exhibit of the National Government.

6th. Judges of Awards.

7th. Foreign Commissioners and their Secretaries.

8th. The President of the United States and Cabinet officers.

Department of Admissions.

9th. Members of the United States Senate and members of the House of Representatives.

10th. Diplomatic Corps.

11th. Governors of States.

12th. Pennsylvania State Legislature, both branches.

13th. The Mayor of the city of Philadelphia.

14th. Philadelphia City Councils, both branches.

15th. Fairmount Park Commissioners.

16th. Board of State Supervisors.

Tickets to editors and reporters.

17th. One each to the principal proprietor and editor of each of the prominent newspapers in the large cities, and one to each other newspaper of note throughout the country, and any others who were adjudged to be entitled to a complimentary by the three officers named above.

Manner of issuing the photograph ticket.

To Class C—exhibitors, attendants, etc.—photograph tickets were issued, in response to applications for the same, made by Chiefs of the different Bureaus or Foreign Commissioners, under regulations prescribed by the Director-General. The tickets thus applied for were not issued by this Department until the applications were countersigned by the Director-General.

How workmen's passes were issued.

Workmen's passes were issued upon requisitions from the chiefs of the departments, and special cases which could not be brought under existing general rules were made as few as possible, and disposed of according to the best judgment of your General Manager.

Stop-list.

The Chiefs of Bureaus, when a ticket belonging to any one in their respective departments was lost or was forfeited by the holder being discharged, notified this Department of the name and number of the ticket. Upon such notice the name of the party holding such ticket and the number was placed on a stop-list, a copy of which was given each attendant at this class of gates. Such a ticket was taken up, if presented, and returned to this office. By this means parties whose connection with the Exhibition ceased were effectually prevented from entering, and tickets lost were restored to their rightful owners. Chiefs of Bureaus also notified this Department for the withdrawal from the stop-list of such tickets as had been placed thereon when the parties had been re-engaged, or when lost tickets had been found.

Officers of the Department.

The working force of this Department comprised a General Manager, one Chief Clerk, one Chief Inspector and twelve Inspectors, one Superintendent of Turnstiles, and an average per day of one hundred and forty employees. The Chief Clerk acted as Cashier, checked the various accounts belonging to the Department, and kept

Chief Clerk.

Department of Admissions.

proper records thereof. The Chief Inspector and Inspectors had charge of the gate-keepers, who were placed on different days at different gates, according to a schedule, to equalize not only their time of service, but the amount of their work, as some gates were used much more than others.

Unlocking box from turnstile.

Before unlocking the box from the turnstile, on a blank form provided for the purpose was written the state of the register at that time; this was signed by the Inspector in the presence of the gate-keeper, and deposited in the box as an account of the contents of the box.

Superintendent of Turnstiles.

The Superintendent of Turnstiles kept them in order, and permitted none to be used while out of order.

Uniforms.

The men belonging to the force were uniformed at the expense of the Department.

Resignations. Discharges.

Health of the force.

From the opening of the Exhibition to the formal closing there were eleven resignations, six discharges for cause, and twenty-nine men temporarily relieved, sixteen of whom were subsequently reinstated. The absentees did not average one a day. The health of the force was remarkably good, there being but ten cases of sickness of any consequence, and but one of a serious nature during the term.

Date when Department took charge of gates.

On the 17th day of April, 1876, this Department was located at the grounds, and from that date till opening day no person was admitted to the grounds unless provided with a pass signed by the Director-General, and countersigned by competent authority, either within or without this Department. No charge was made or record kept of these passes.

Total of receipts and admissions.

The Exhibition opened on the 10th of May, 1876, and from that time until November 10, 1876, there were admitted a grand total of 9,910,966 persons, of whom 8,004,274 paid admission fees amounting to $3,813,724.49. 1,815,617 persons were connected with the Exhibition, and 91,075 were free admissions on complimentary tickets, making an average per day of 62,333 admissions,—50,341 paid admission fees, 11,419 connected with the Exhibition, and 573 free on complimentary tickets. After November 10, and up to December 16, 1876, when the Department was relieved of the charge of the gates, there were admitted 213,744, of whom 43,327 paid admission fees amounting to $19,912, 168,900 were connected with the Exhibition, and 1517 were free on complimentary tickets.

The total admissions to the Exhibition recorded by this Department from May 10, 1876, to December 16, 1876, as above, and including 39,779 troops who passed into and through the grounds to their encampments, show a grand total of 10,164,489 persons, of whom 8,047,601 paid admission fees amounting to $3,833,636.49, while 2,024,296 were connected with the Exhibition, and 92,592 entered on complimentary tickets. Department of Admissions.

The largest number admitted on any one day was 274,919 persons, on Pennsylvania day, September 28, 1876. The smallest number, 12,720 persons, were admitted on Friday, May 12, 1876. Largest and smallest days.

The gate most used was No. 45, through which were admitted 514,290 persons. The gate least used was No. 77, being used but one day, through which passed 14 persons. Gate most used.

The largest number of persons passing through a single gate in a single hour was 1870, through gate No. 45, on Thursday, October 19. Largest number through one gate in one hour.

The day of the week most popular among visitors was Thursday. Twenty-seven Thursdays occurred during the Exhibition. On these days 2,076,426 persons passed through the gates, averaging 76,905 each Thursday. Most popular day of week.

The day of the week least frequently used by visitors was Monday. Twenty-six Mondays occurred during the Exhibition. On these days 1,301,324 persons passed through the gates, averaging 50,051 for each Monday. Least popular day of week.

The largest number of admissions for any week during the Exhibition was recorded during the week ending Saturday, September 30, there being a total of 758,160 persons, of whom 679,498 paid admission fees amounting to $300,709.75, while 74,135 were connected with the Exhibition, and 4527 were admitted free on complimentary tickets. Largest number of admissions in a week.

The largest cash receipts for any week were recorded during that ending Saturday, October 21, when there were admission fees amounting to $308,854.25. Largest cash receipts in a week.

The tax on malt liquors and aerated waters collected at the wagon gates amounted to $45,014.76, making a grand total of $3,878,651.25 collected by this Department and placed on deposit at the Centennial National Bank to the credit of the Treasurer of the Centennial Board of Finance. Tax on malt liquors and aerated waters.

By General Order No. 3, of the Director-General, the hours for opening and closing the gates were 9 A.M. and 6 P.M. But a few days' experience proved that it would be better to open the gates one-half hour earlier than the hour set for the opening of the buildings, and thus prevent the collection of a crowd at the gates. By subsequent general orders of the Director-General the hour for opening the gates was changed to 8.30 A.M., and on several occasions, by the same authority, they were continued open until 7.30 P.M. The gates for exhibitors and attendants were opened at 7 A.M., and kept open until Hours fo- opening and closing gates.

Department of Admissions.

6 P.M. The wagon gates were open from 4 o'clock to 8 A.M., and from 7 o'clock to 9 P.M., for the delivery of supplies and removal of waste. The exit gates were kept open until 9 o'clock P.M.

Method for collecting tax on malt liquors and aerated waters.

The Committee on Concessions of the Board of Finance having established the rate of tax to be levied on malt liquors and aerated waters sold on the grounds, the following plan of collection was adopted by this Department. A series of consecutively-numbered tickets, with coupons attached and numbered to correspond, in color designating the size of package, was kept on hand and for sale by this Department to those who had concessions or to those who supplied material to such as enjoyed these privileges. As the material entered the grounds the coupon was detached by the gate-keeper at the wagon gates, and when the empty barrel or vessel passed out of the grounds the stub or ticket was taken up by the gate-keeper, and thus a perfect check was maintained upon this branch of business.

Twenty-five-cent Saturdays.

In the month of August it was resolved by the authorities in charge of the Exhibition to set apart certain Saturdays on which the admission fee should be reduced to twenty-five cents. The success of this experiment is shown in the accompanying comparative table, in which the seven twenty-five-cent Saturdays are compared with Saturdays to the same number immediately before and after those set apart as twenty-five-cent days.* The plans of this Department had been made with reference to the fifty-cent note or piece as the ticket of admission, and were somewhat disturbed by this departure from the settled price of admission, without benefit, as it may be seen, to the revenues of the Exhibition. It was claimed by many friends of the enterprise that, as long as the fifty-cent note or piece was the only recognized ticket of admission to the Exhibition, those who wished to present tickets to their friends, customers, and employees were restrained from so doing by the character of the ticket, it being a piece of money.

The package ticket.

To meet this condition of affairs a handsomely-engraved ticket was prepared by order of the proper authorities and placed in charge of this Department, to be sold in packages. While the case presented seemed to be plausible, experience demonstrated that it was an unnecessary expense, and needlessly disturbed the system which had grown up around the piece of money as the ticket of admission. I am prepared from experience to declare, as General Manager of this Department, that no wiser regulation was made for me to act upon than that which declared the fifty-cent note or piece of National money to be the ticket of admission to be recognized by this Depart-

The fifty-cent note or piece of National money the best ticket.

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* See table, page 507.

ment; for by this regulation there was involuntarily, and without further action on the part of the Centennial authorities, placed on sale throughout the whole country a ticket without expense for ticket agents, for the printing of a large number of tickets, or for the trouble of accounting for those sold and those not sold. No conceivable plan could, in the nature of things, have placed any other ticket so immediately and generally before the people. Nor could one have been selected with which the people were so familiar or in which they could so easily distinguish between the real and the counterfeit. Department of Admissions.

The advantage of this selection is no less apparent when reference is made to the accompanying table,* showing that in the handling of so large a sum as was received at the gates of this Exhibition—nearly $4,000,000—there was taken but $1001 of counterfeit money; and when reference is still further made to the accompanying table,* showing the number of admissions at certain gates at certain hours,—in one case 1870 from eight to nine o'clock on Thursday, October 19, at gate No. 45, when the keeper examined and passed one ticket every two seconds during this hour, the result seems to pass human comprehension, and the fact can only be entertained because the ticket used was one in the scrutiny of which the keeper might have been an expert before the Exhibition was opened. Counterfeit money. Rapidity of admitting visitors.

The tickets for the press were placed in the charge of a committee, who distributed them under prescribed regulations, and made report to this Department at the close of the Exhibition. The press ticket.

Once a month, during the progress of the Exhibition, a census of those living on the grounds, exclusive of the Centennial Guard and members of the Centennial Fire Department, was made, showing an average permanent population of 571 persons. Census of grounds.

Attention is specially directed to the accompanying table,† showing the small percentage which the complimentary free admissions bear to the total number. With all such enterprises as this Exhibition there are large numbers of persons who are necessary to its existence. An exhibition without exhibitors would be a blank show. Property must be guarded and exhibits must be cared for; and those who perform this work are part of the exhibition, and must have the freedom of the gates. In any comparative table contrasting the number of visitors who paid and those who did not, all admissions of exhibitors, attendants, and workmen should be discarded, as they clearly belong to the personnel of the exhibition.

The total expenses of this Department were $145,438.25, consisting Expense of Department.

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* Page 505. † Page 488.

Department of Admissions. of $99,949.06 disbursed by pay-rolls, and $45,489.19 on requisitions for construction and supplies.

Specifications. I herewith submit copies of the specifications issued to those who built the turnstiles, constructed the registers and other matters used by this Department, together with copies of rules and regulations which governed the force under my charge.

Index. I also submit an index to the blank forms, tickets, etc., used by this Department, with schedules and other items which may be of interest to the general reader, including a tabular statement of the state of the weather, for which I am under obligations to F. M. M. Beall, Sergeant Signal Service, U. S. Army, Philadelphia station.

Thanking you sincerely for the generous appreciation and well-timed support which you have ever extended to me, I am, sir, with sentiments of respect, your obedient servant,

DAVID G. YATES,
General Manager Department of Admissions, International Exhibition.

TABLES, ORDERS, RULES, FORMS.

DAILY ADMISSIONS AND

DATE. May, 1876.	ADMISSIONS.				
	Free, Exhibitors, Etc.				
	Compli-mentary.	Exhibitors, Attendants, and Press, Photograph Tickets.	Special Day Passes.	Workmen.	Total.
Wednesday, 10					110,500
Thursday, 11	2,001	2,274			4,275
Friday, 12	162	2,306			2,468
Saturday, 13	357	4,847			5,204
Monday, 15	367	4,556	29		4,952
Tuesday, 16	355	5,691	11		6,057
Wednesday, 17	387	6,196	12		6,595
Thursday, 18	440	6,315	10		6,765
Friday, 19	480	7,045	2		7,527
Saturday, 20	546	7,379			7,925
Monday, 22	540	7,926	2		8,468
Tuesday, 23	577	7,546	2		8,125
Wednesday, 24	655	8,997			9,652
Thursday, 25	586	6,749			7,335
Friday, 26	587	6,740			7,327
Saturday, 27	540	7,079			7,619
Monday, 29	493	6,374		398	7,265
Tuesday, 30	637	5,973		932	7,542
Wednesday, 31	634	7,421		859	8,914
Workmen at Gate "A" before 7 A.M.				71,445	71,445
Total Complimentary	10,344				
" Photograph Tickets		111,414			
" Special Day Passes			68		
" Workmen				73,634	
" Free, Exhibitors, etc.					305,960
" Number of Cash Admissions					
Grand Total					
Total Receipts from Admissions					

RECEIPTS FOR MAY.

Cash.	Grand Total.	RECEIPTS.	WEATHER REPORT.	REMARKS.
76,172	186,672	$38,085.95	Rain.	Opening Day. The number of free, exhibitors, etc., admissions on May 10 (110,500) are estimated.
14,722	18,997	7,361.25	Fair.	
10,252	12,720	5,126.00	Cloudy.	
11,658½	16,862½	5,829,25	Fair.	
10,896½	15,848½	5,448.25	Cloudy.	
7,056	13,113	3,528.00	Rain.	
12,117	18,712	6,058.50	Cloudy.	
11,054	17,819	5,527.00	"	
16,100	23,627	8,050.05	Fair.	
18,191½	26,116½	9,095.75	Clear.	
12,402½	20,870½	6,201.25	Rain.	
17,552½	25,677½	8,776.25	Clear.	Session of True Templars.
20,538	30,190	10,269.00	"	Meeting of Judges of Awards.
19,821½	27,156½	9,910.75	Fair.	
16,792	24,119	8,396.00	Clear.	
20,091½	27,710½	10,045.75	"	
16,202	23,467	8,101.00	Rain.	
41,111½	48,653½	20,555.85	Fair.	Decoration Day. Opening of Bankers' [Building.
26,249	35,163	13,124.50	Clear.	
....	71,445			
378,980				
....	684,940			
....	....	$189,490.35		

DAILY ADMISSIONS AND

DATE. June, 1876.	ADMISSIONS.								
	Free, Exhibitors, Etc.								
	Complimentary.	Exhibitors, Attendants, and Press, Photograph Tickets.	Special Press Passes.	Special Day Passes.	Workmen.	Guard.	Firemen.	Return Checks.	Total.
Thursday, 1	630	6,521	....	....	525	....	....	....	7,676
Friday, 2	654	6,605	41	209	1,658	....	....	....	9,167
Saturday, 3	560	6,799	59	114	917	....	....	....	8,449
Monday, 5	775	7,744	92	....	1,933	....	....	....	10,544
Tuesday, 6	652	7,987	93	126	1,413	....	....	....	10,271
Wednesday, 7	672	8,260	89	54	1,800	....	....	....	10,875
Thursday, 8	647	6,754	113	....	1,779	109	44	....	9,446
Friday, 9	683	6,927	75	1	1,641	241	41	....	9,609
Saturday, 10	674	7,220	66	....	1,694	114	35	....	9,803
Monday, 12	715	6,555	46	122	1,678	430	4	....	9,550
Tuesday, 13	636	6,351	43	2	2,048	252	5	....	9,337
Wednesday, 14	672	7,104	61	....	1,660	269	135	....	9,901
Thursday, 15	755	7,296	55	4	1,047	361	124	....	9,642
Friday, 16	663	7,235	38	....	1,049	320	162	....	9,467
Saturday, 17	612	7,492	44	....	969	246	119	....	9,482
Monday, 19	734	7,141	34	29	901	381	161	....	9,381
Tuesday, 20	669	7,175	31	3	1,051	243	159	....	9,331
Wednesday, 21	690	7,674	18	57	949	230	147	....	9,765
Thursday, 22	676	7,798	35	3	985	268	140	....	9,905
Friday, 23	690	7,445	32	16	1,051	217	161	....	9,612
Saturday, 24	661	7,536	22	58	1,101	227	43	....	9,648
Monday, 26	813	7,212	27	148	814	487	57	2,111	11,669
Tuesday, 27	643	6,519	24	6	934	133	60	1,904	10,223
Wednesday, 28	722	7,002	87	5	822	424	49	1,967	11,078
Thursday, 29	738	7,176	70	12	862	174	35	1,990	11,057
Friday, 30	586	7,514	32	5	1,282	192	52	1,960	11,623
Workmen at Gate "A" before 7 A.M.	....	....	....	....	50,648	....	....	....	50,648
Total Complimentary	17,622								
" Photograph Tickets		187,042							
" Special Press Passes			1,327						
" " Day Passes				974					
" Workmen					83,211				
" Guard						5,318			
" Firemen							1,733		
" Return Checks								9,932	
" Free, Exhibitors, etc									307,159
" Number of Cash Admissions									
Grand Total									
Total Receipts from Admissions									

RECEIPTS FOR JUNE.

		RECEIPTS.	WEATHER REPORT.	REMARKS.
CASH, AT FIFTY CENTS.	GRAND TOTAL.			
23,200	30,876	$11,600.00	Clear.	Parade of Knights Templar.
26,637	35,804	13,318.60	"	
22,292	30,741	11,146.00	"	
27,555	38,099	13,777.51	Fair.	
28,354½	38,625½	14,177.35	Clear.	
31,673	42,548	15,836.50	"	Convention in Brewers' Hall.
31,634½	41,080½	15,817.25	Fair.	
24,693	34,302	12,346.50	Clear.	
28,948	38,751	14,474.00	"	
21,379½	30,929½	10,689.75	Cloudy.	Women's Internat. Temperance Convention.
24,223	33,560	12,111.50	Rain.	
29,812	39,713	14,906.00	Fair.	
31,937½	41,579½	15,968.75	"	Sons of Temperance dedicate Ice-Water Fountain in the Grounds.
25,903	35,370	12,951.50	Cloudy.	
25,902	35,384	12,951.00	Fair.	
23,372	32,753	11,686.10	"	
27,204	36,535	13,602.00	"	
32,134½	41,899½	16,067.25	"	
39,386½	49,291½	19,693.25	"	
27,693	37,305	13,846.55	"	
25,103	34,751	12,551.50	Clear.	
21,120	32,789	10,560.00	"	
20,343	30,566	10,171.50	"	West Point Cadets encamped in the Grounds.
23,590	34,668	11,795.00	Fair.	
27,034½	38,091½	13,517.25	"	
24,541½	36,164½	12,270.80	"	
....	50,648			
695,666				
....	1,002,825			
....	....	$347,833.41		

DAILY ADMISSIONS AND

DATE. July, 1876.	ADMISSIONS.								
	Free, Exhibitors, Etc.								
	Complimentary.	Exhibitors, Attendants, and Press, Photograph Tickets.	Special Press Passes.	Special Day Passes.	Workmen.	Guard.	Firemen.	Return Checks.	Total.
Saturday, 1	769	7,346	45	5	894	208	40	2,112	11,419
Monday, 3	958	7,322	99	93	856	335	181	2,469	12,313
Tuesday, 4	565	6,742	101	318	529	33	33	1,883	10,204
Wednesday, 5	917	7,146	95	15	724	12	36	2,056	11,001
Thursday, 6	661	8,100	66	27	506	94	41	2,027	11,522
Friday, 7	638	7,627	49	40	445	196	68	1,990	11,053
Saturday, 8	570	7,443	29	14	562	240	67	1,892	10,817
Monday, 10	460	7,198	21	195	315	422	107	1,808	10,526
Tuesday, 11	412	7,376	28	21	482	268	44	1,882	10,513
Wednesday, 12	420	7,208	38	41	415	214	46	1,929	10,311
Thursday, 13	390	7,103	25	36	442	243	46	1,781	10,066
Friday, 14	405	7,218	33	51	387	217	50	1,893	10,254
Saturday, 15	374	7,157	25	27	352	255	53	1,784	10,027
Monday, 17	520	7,030	27	67	314	435	125	1,849	10,367
Tuesday, 18	534	7,109	23	40	324	181	45	1,855	10,111
Wednesday, 19	516	7,079	16	158	303	106	48	1,793	10,019
Thursday, 20	429	6,524	23	78	290	196	60	1,655	9,255
Friday, 21	476	6,910	29	40	294	202	56	1,671	9,678
Saturday, 22	446	7,014	29	20	314	206	57	1,709	9,795
Monday, 24	557	7,183	19	105	286	403	124	1,885	10,562
Tuesday, 25	509	6,876	22	22	257	194	62	1,653	9.595
Wednesday, 26	493	7,110	33	43	252	191	72	1,792	9,986
Thursday, 27	511	7,049	42	81	274	211	62	1,749	9,979
Friday, 28	520	7,038	34	226	304	193	63	1,679	10,057
Saturday, 29	490	6,979	16	180	241	188	74	1,774	9,942
Monday, 31	415	6,823	21	595	434	372	129	1,768	10,557
Total Complimentary	13,955								
" Photograph Tickets		185,710							
" Special Press Passes			988						
" Special Day Passes				2,538					
" Workmen					10,796				
" Guard						5,815			
" Firemen							1,789		
" Return Checks								48,338	
" Free, Exhibitors, etc									269,929
" Cash Admissions at Fifty Cents									
" " " Twenty-five Cents, Schools									
" Number of Cash Admissions									
Grand Total									
Total Receipts from Admissions									

RECEIPTS FOR JULY.

Cash.			Grand Total.	Receipts.	Weather Report.	Remarks.
Fifty Cents.	Twenty-five Cents.	Total.				
26,410	....	26,410	37,829	$13,205.00	Fair.	Soldiers' Orph's from Lincoln Ins. and
47,786	....	47,786	60,099	23,893.00	Clear.	[Educat'l Home visited the Exhib'n.
46,290½	....	46,290½	56,494½	23,145.36	Fair.	"Independence Day." Dedication of
51,825½	....	51,825½	62,826½	25,912.80	"	[Cath. T. A. B. Fount'n in the Grounds.
46,088	....	46,088	57,610	23,044.06	Clear.	Free Excurs'n of miners under the pa-
33,746	....	33,746	44,799	16,873.00	Fair.	2d do. [tronage of P. & R. R.R. Co.
23,207	....	23,207	34,024	11,603.50	"	3d do.
19,133	....	19,133	29,659	9,566.50	Rain.	Departure of West Point Cadets.
20,645	....	20,645	31,158	10,322.50	"	
20,575	....	20,575	30,886	10,287.50	Fair.	
18,352	....	18,352	28,418	9,176.01	Cloudy.	4th Free Excursion of miners under the
18,333½	....	18,333½	28,587½	9,166.75	"	[patronage of P. & R. R.R. Co.
16,057	....	16,057	26,084	8,028.50	Fair.	Columbus (Ohio) Cadets encamped on
18,270	....	18,270	28,637	9,135.00	Clear.	[the Grounds.
19,184	....	19,184	29,295	9,592.00	Fair.	5th Free Excursion of miners under the
18,729	....	18,729	28,748	9,364.50	"	6th do. [patronage of P. & R. R.R. Co.
16,681	....	16,681	25,936	8,340.50	Rain.	7th do.
17,714	....	17,714	27,392	8,857.00	Fair.	8th do.
16,941	....	16,941	26,736	8,470.50	Clear.	
20,730	48	20,778	31,340	10,377.00	Fair.	
21,914	....	21,914	31,509	10,957.00	Clear.	
22,870	59	22,929	32,915	11,449.75	Fair.	
24,716½	130	24,846½	34,825½	12,390.75	"	
18,924	....	18,924	28,981	9,462.00	"	
15,949	3	15,952	25,894	7,975.25	"	
15,207	....	15,207	25,764	7,603.50	Cloudy.	
636,278						
....	240					
....	....	636,518				
....	....	....	906,447			
....	....	....	....	$318,199.23		

DAILY ADMISSIONS AND

DATE. AUGUST, 1876.	ADMISSIONS.								
	FREE, EXHIBITORS, ETC.								
	COMPLIMENTARY.	EXHIBITORS, ATTENDANTS, AND PRESS, PHOTOGRAPH TICKETS.	SPECIAL PRESS PASSES.	SPECIAL DAY PASSES.	WORKMEN.	GUARD.	FIREMEN.	RETURN CHECKS.	TOTAL.
Tuesday, 1	444	6,768	15	214	273	195	52	1,683	9,644
Wednesday, 2	428	6,716	21	189	249	199	56	1,746	9,604
Thursday, 3	454	6,817	29	212	237	189	71	1,784	9,793
Friday, 4	447	6,939	29	149	212	203	67	1,730	9,776
Saturday, 5	426	7,060	24	159	211	192	69	1,855	9,996
Monday, 7	398	6,652	25	836	223	435	146	1,796	10,511
Tuesday, 8	391	6,606	39	108	222	225	57	1,752	9,460
Wednesday, 9	376	6,774	32	145	232	210	57	1,812	9,638
Thursday, 10	346	6,496	33	169	216	237	64	1,682	9,243
Friday, 11	374	6,692	56	180	211	254	62	1,786	9,615
Saturday, 12	346	6,887	30	162	251	214	73	1,886	9,849
Monday, 14	404	6,515	31	725	247	453	137	1,704	10,216
Tuesday, 15	412	6,704	40	69	201	215	57	1,773	9,471
Wednesday, 16	386	6,675	43	167	146	272	66	1,744	9,499
Thursday, 17	306	6,583	38	68	199	191	56	1,828	9,269
Friday, 18	368	6,731	50	151	217	230	55	1,716	9,518
Saturday, 19	352	6,779	37	128	198	179	57	1,874	9,604
Monday, 21	437	6,785	49	571	223	319	138	1,896	10,418
Tuesday, 22	353	6,772	53	152	235	198	60	1,849	9,672
Wednesday, 23	381	6,852	69	139	231	197	63	1,864	9,796
Thursday, 24	479	7,414	69	183	264	236	64	2,018	10,727
Friday, 25	387	6,832	48	202	253	203	71	1,817	9,813
Saturday, 26	383	7,353	41	76	309	208	50	2,038	10,458
Monday, 28	369	6,852	45	329	289	422	121	1,999	10,426
Tuesday, 29	375	6,958	50	156	336	232	58	1,977	10,142
Wednesday, 30	352	6,967	57	114	349	173	78	2,040	10,130
Thursday. 31	360	6,900	166	124	425	216	65	2,086	10,342
Total Complimentary	10,534								
" Photograph Tickets		184,079							
" Special Press Passes			1,219						
" Special Day Passes				5,937					
" Workmen					6,659				
" Guard						6,497			
" Firemen							1,970		
" Return Checks								49,735	
" Free, Exhibitors, etc									266,630
" Cash Admissions at Fifty Cents									
" " " " Twenty-five Cents, Saturdays (including Schools)									
" Number of Cash Admissions									
Grand Total									
Total Receipts from Admissions									

RECEIPTS FOR AUGUST.

Cash.			Grand Total.	Receipts.	Weather Report.	Remarks.
Fifty Cents.	Twenty-five Cents.	Total.				
22,141	54	22,195	31,839	$11,084.00	Cloudy.	
24,246	....	24,246	33,850	12,123.00	"	
27,667	273	27,940	37,733	13,901.75	Rain.	State Troops marched through the
25,015	....	25,015	34,791	12,507.50	Cloudy.	[Grounds to Camp "Anthony Wayne,"
22,304	....	22,304	32,300	11,152.00	"	[in the vicinity.
23,376	25	23,401	33,912	11,694.25	Clear.	
23,939	120	24,059	33,519	11,999.50	Fair.	
29,818	120	29,938	39,576	14,939.00	Clear.	State Troops marched through the
26,072	82	26,154	35,397	13,056.50	Fair.	[Grounds to Camp "Anthony Wayne,"
25,880	13	25,893	35,508	12,943.25	Clear.	[in the vicinity.
22,240	74	22,314	32,163	11,138.50	Fair.	
22,656	8	22,664	32,880	11,330.00	"	
25,283	63	25,346	34,817	12,657.25	Clear.	
28,341	119	28,460	37,959	14,200.25	"	
27,031	166	27,197	36,466	13,557.00	Rain.	
25,664	125	25,789	35,307	12,863.25	Cloudy.	[Mfgs.) Employees.
....	54,045	54,045	63,649	13,511.25	Rain.	Excursion Steinway & Sons' (Piano
28,981	....	28,981	39,399	14,490.50	Clear.	[menced on the Schuylkill River.
31,825	202	32,027	41,699	15,963.00	Fair.	National and International Regatta com-
39,082	313	39,395	49,191	19,619.25	"	Parade of Knights of Pythias.
55,930	395	56,325	67,052	28,063.75	Clear.	New Jersey Day.
32,298	....	32,298	42,111	16,149.00	Fair.	
....	97,172	97,172	107,630	24,293.00	Clear.	
34,653	146	34,799	45,225	17,363.00	"	Parade of Swiss Citizens.
41,310	10	41,320	51,462	20,657.50	Fair.	Mayor's Reception in Grounds at City
43,424	183	43,607	53,737	21,757.75	"	[Building.
44,777	1,023	45,800	56,142	22,644.25	"	
753,953						
....	154,731					
....	....	908,684				
....	....	....	1,175,314			
....	....	....	....	$415,659.25		

DAILY ADMISSIONS AND

DATE. September, 1876.	ADMISSIONS.										
	FREE, EXHIBITORS, ETC.										
	Live-Stock.		Main Exhibition.								
	Complimentary.	Exhibitors and Attendants.	Complimentary.	Exhibitors, Attendants, and Press, Photograph Tickets.	Special Press Passes.	Special Day Passes.	Workmen.	Guard.	Firemen.	Return Checks.	Total.
Friday, 1	34	124	414	7,085	121	120	189	232	52	2,008	10,379
Saturday, 2	34	149	424	7,348	131	108	387	212	55	2,063	10,911
Monday, 4	96	217	808	7,041	82	312	305	466	146	2,132	11,605
Tuesday, 5	106	362	471	7,066	97	168	316	239	74	2,051	10,950
Wednesday, 6	127	434	459	6,972	69	77	333	182	79	2,093	10,825
Thursday, 7	77	495	492	7,107	106	59	365	213	66	2,005	10,985
Friday, 8	124	666	500	7,176	100	60	302	210	72	2,130	11,340
Saturday, 9	50	357	552	7,811	90	57	363	269	65	2,409	12,023
Monday, 11	31	301	448	7,056	80	449	352	450	144	2,099	11,410
Tuesday, 12	48	406	472	7,457	108	88	417	231	75	2,026	11,328
Wednesday, 13	55	408	532	7,700	135	80	423	248	68	2,123	11,772
Thursday, 14	51	393	554	7,926	149	107	432	241	70	2,150	12,073
Friday, 15	11	198	511	7,726	97	101	457	242	71	2,152	11,566
Saturday, 16	9	174	482	8,038	72	45	406	238	74	2,327	11,865
Monday, 18	5	137	449	7,773	82	86	391	387	129	2,195	11,634
Tuesday, 19	13	155	512	7,893	75	186	432	234	75	2,226	11,801
Wednesday, 20	19	140	516	7,793	86	120	481	229	72	2,405	11,861
Thursday, 21	28	136	597	8,308	116	92	514	268	63	2,463	12,585
Friday, 22	31	221	450	7,782	89	111	571	219	51	2,393	11,918
Saturday, 23	15	225	380	7,816	62	52	534	220	64	1,837	11,205
Monday, 25	32	265	511	7,841	83	218	548	408	132	2,215	12,253
Tuesday, 26	43	339	444	7,832	90	86	522	243	65	2,148	11,812
Wednesday, 27	51	389	1,128	8,241	99	63	536	242	67	2,413	13,229
Thursday, 28	42	387	1,314	10,761	116	80	654	262	67	4,067	17,750
Friday, 29	55	360	473	7,931	80	17	449	91	50	2,315	11,821
Saturday, 30	19	355	415	7,818	78	30	543	217	63	2,259	11,797
Total Compl'y	1,206										
" Exhibitors, etc.		7,793									
" Compl'y, Main Exhibit.			14,308								
" Photograph Tickets				201,298							
" Special Press Passes					2,493						
" " Day Passes						2,972					
" Workmen							11,222				
" Guard								6,693			
" Firemen									2,009		
" Return Checks										58,704	
" Free, Exhibitors, etc											308,698
" Cash " Live-Stock Exhibition, at Twenty-five Cents											
" " " Main Exhibition, at Fifty Cents											
" " " " at Twenty-five Cents, Saturdays (including Schools)											
Total Receipts from Admissions											

RECEIPTS FOR SEPTEMBER.

CASH.				Grand Total.	RECEIPTS.	WEATHER REPORT.	REMARKS.
Live-Stock.	Main Exhibition.						
Twenty-five Cents.	Fifty Cents.	Twenty-five Cents.	Total Cash.				
530	34,182	17	34,729	45,108	$17,227.75	Fair.	Opening of Live-Stock Exhibit.
821	....	58,591	59,412	70,323	14,853.00	Rain.	Connecticut N. G. encamped.
1,957	35,495	176	37,628	49,233	18,280.75	Fair.	International Medical Congress
3,529	50,209	217	53,955	64,905	26,041.00	Clear.	[convened.
5,881	53,395	164	59,440	70,265	28,208.75	Fair.	
4,493	59,356	210	64,059	75,044	30,853.75	Rain.	Connecticut Day.
8,164	50,604	140	58,908	70,248	27,378.00	Cloudy.	
4,330	....	99,984	104,314	116,337	26,078.50	Fair.	Fire on Elm Avenue threatened
671	40,838	....	41,509	52,919	20.566.75	Rain.	[destruction of Main Building.
3,911	59,089	....	63,000	74,328	30,522.25	Cloudy.	
6,420	72,502	33	78,955	90,727	37,864.25	Fair.	
6,818	78,977	....	85.795	97,868	41,193.00	"	Massachusetts Day.
505	63,813	23	64,341	75,907	32,038.50	Rain.	
166	....	91,914	92,080	103,945	23,020.00	Cloudy.	
109	62,623	209	62,941	74,575	31,391.00	Fair.	
240	92,413	213	92,866	104,667	46,319.75	"	
749	100,502	247	101,498	113,359	50,500.00	Cloudy.	Odd-Fellows' Day.
3,284	117,941	778	122,003	134,588	59,986.00	"	New York Day.
3,212	85,953	268	89.433	101,351	43,846.50	"	
726	....	83,901	84,627	95,832	21,156.75	Rain.	Internat. Rifle Teams, Scotch,
2,395	66,281	36	68,712	80,965	33,748.25	Fair.	[Irish, Australian, and Amer-
2,398	78,216	330	80,944	92,756	39,790.00	Cloudy.	[ican, visited Grounds.
3.376	89,654	....	93,030	106,259	45,671.00	Clear.	
5,837	217,526	33,806	257,169	274,919	118,673.75	"	Pennsylvania Day. Fireworks.
3,268	71,664	41	74,973	86,794	36,659.25	Fair.	
1,285	....	103,385	104,670	116,467	26,167.50	Rain.	
75,075							
....	1,581,233						
....		474,683					
....			2,130,991	2,439,689	$928,056.00		

DAILY ADMISSIONS AND

DATE. October, 1876.	ADMISSIONS.										
	FREE, EXHIBITORS, ETC.										
	Live-Stock.		Main Exhibition.								
	Complimentary.	Exhibitors and Attendants.	Complimentary.	Exhibitors, Attendants, and Press, Photograph Tickets.	Special Press Passes.	Special Day Passes.	Workmen.	Guard.	Firemen.	Return Checks.	Total.
Monday, 2	19	363	480	7,920	63	296	593	446	129	2,312	12,621
Tuesday, 3	30	254	1,020	7,939	72	39	554	234	61	2,355	12,558
Wednesday, 4	28	432	474	8,032	92	38	574	230	71	2,232	12,203
Thursday, 5	9	75	463	8,091	93	38	534	183	64	2,336	11,886
Friday, 6	3	55	513	8,396	109	67	489	178	56	2,236	12,102
Saturday, 7	5	53	457	8,319	91	117	492	219	57	2,451	12,261
Monday, 9	4	26	497	8,123	80	345	452	492	131	2,522	12,672
Tuesday, 10	8	60	492	8,200	92	199	471	237	64	2,268	12,091
Wednesday, 11	17	99	499	8,482	89	253	502	266	61	2,396	12,664
Thursday, 12	25	111	1,583	8,585	92	235	478	226	75	2,471	13,881
Friday, 13	23	147	483	8,376	86	77	503	208	56	2,379	12,338
Saturday, 14	30	149	512	8,607	83	35	507	219	71	2,380	12,593
Monday, 16	16	159	560	8,134	77	480	487	457	140	2,361	12,871
Tuesday, 17	18	155	450	8,269	106	44	499	222	68	2,315	12,146
Wednesday, 18	18	159	643	9,069	127	47	545	213	72	3,204	14,097
Thursday, 19	......	....	1,814	9,989	114	57	557	159	62	2,300	15,052
Friday, 20	......	....	1,851	8,308	97	50	533	216	62	2,413	13.530
Saturday, 21	......	....	458	8,371	83	34	537	219	50	2,361	12.113
Monday, 23	......	....	480	8,308	78	38	511	483	139	2,301	12,338
Tuesday, 24	......	....	493	8,560	85	36	489	234	52	2,288	12,237
Wednesday, 25	......	....	461	8,556	99	31	483	221	50	2,402	12,303
Thursday, 26	......	....	778	9,191	117	50	531	143	58	2,493	13,361
Friday, 27	......	....	565	8,630	97	51	517	208	62	2,387	12,517
Saturday, 28	......	....	471	8,539	89	61	518	200	54	2,310	12,242
Monday, 30	......	....	532	8,399	99	50	551	460	100	2,349	12,540
Tuesday, 31	......	....	448	7,862	95	42	1,082	195	47	2,393	12,164
Total Compl'y	253										
" Exhibitors,etc		2,297									
" Compl'y, Main Ex....			17,477								
" Photograph Tickets..............				219,255							
" Special Press Passes................................					2,405						
" " Day Passes...						2,810					
" Workmen...........							13,989				
" Guard..								6,768			
" Firemen..									1,912		
" Return Checks...										62,215	
" Free Admissions to Live-Stock and Main Exhibi ions.................											329,381
" Cash " Live-Stock Exhibition, at Twenty-five cents..											
" " " Main Exhibition, at Fifty Cents											
" " " " Schools, at Twenty-five Cents											
" " " Main and Live-Stock Exhibitions											

RECEIPTS FOR OCTOBER.

CASH.				Grand Total.	RECEIPTS.	WEATHER REPORT.	REMARKS.
Live-Stock.	Main Exhibition.						
Cash, Twenty-five Cents.	Cash, Fifty Cents.	Children, Twenty-five Cents.	Total Cash.				
2,309	65,865	....	68,174	80,795	$33,509.75	Clear.	
3,116	77,536	205	80,857	93,415	39,598.25	"	
3,246	87,577	63	90,886	103,089	44,615.75	Fair.	
83	88,924	53	89,060	100,946	44,496.00	Cloudy.	Rhode Island Day.
19	76,046	102	76,167	88,269	38,053.25	"	Lauber's restaurant burned.
25	72,576	293	72,894	85,155	36,367.50	Fair.	[Va. Mil. Cadets encamp on
72	71,704	32	71,808	84,480	35,878.00	"	[Grounds.
448	79,435	5	79,888	91,979	39,830.75	"	
709	93,449	173	94,331	106,995	46,945.00	Clear.	
908	100,603	30	101,541	115,422	50,536.00	"	N. Hampshire Day. Statue
879	80,505	542	81,926	94,264	40,607.75	"	[of Columbus dedicated.
889	77,321	68	78,278	90,871	38,899.75	Fair.	Dedication of Witherspoon
666	73,871	120	74,657	87,528	37,132.00	Clear.	[Monument.
1,084	91,412	442	92,938	105,084	46,087.50	Fair.	[Stock Exhibition.
920	123,080	777	124,777	138,874	61,964.25	Clear.	Fire-Works. Closing Live-
....	160,115	1,240	161,355	176,407	80,367.50	"	Del., Md., and Dist. of Co-
....	94,040	95	94,135	107,665	47,043.75	Cloudy.	[lumbia Day. Tournament.
....	72,108	821	72,929	85,042	36,259.25	Rain.	
....	73,774	150	73,924	86,262	36,924.50	Cloudy.	
....	88,327	193	88,520	100,757	44,211.75	Clear.	
....	106,338	648	106,986	119,289	53,331.00	Fair.	
....	121,818	482	122,300	135,661	61,029.50	"	Ohio Day. Merchants' Day.
....	94,377	1,186	95,563	108,080	47,485.00	"	Vermont Day.
....	77,559	1,171	78,730	90,972	39,072.25	Rain	
....	79,683	356	80,039	92,579	39,930.50	Fair.	
....	80,673	1,194	81,867	94,031	40,635.00	Cloudy.	
15,373							
....	2,308,716						
....	....	10,441					
....	....	....	2,334,530	2,663,911	$1,160,911.50		

DAILY ADMISSIONS AND

DATE. NOVEMBER, 1876.	ADMISSIONS.								
	FREE, EXHIBITORS, ETC.								
	COMPLIMENTARY.	EXHIBITORS, ATTENDANTS, AND PRESS, PHOTOGRAPH TICKETS.	SPECIAL PRESS PASSES.	SPECIAL DAY PASSES.	WORKMEN.	GUARD.	FIREMEN.	RETURN CHECKS.	TOTAL.
Wednesday, 1	494	8,078	106	284	1,134	202	51	2,414	12,763
Thursday, 2	500	8,628	119	104	682	193	57	2,441	12,724
Friday, 3	526	8,601	85	36	508	190	61	2,290	12,297
Saturday, 4	540	9,000	99	43	516	229	74	2,416	12,917
Monday, 6	504	8,450	96	45	498	387	121	2,280	12,381
Tuesday, 7	486	8,398	95	54	456	139	104	2,074	11,806
Wednesday, 8	587	8,695	103	72	449	153	62	2,418	12,539
Thursday, 9	865	10,755	198	103	532	242	70	3,389	16,154
Friday, 10	874	10,606	156	384	546	97	74	2,617	15,354
Total Complimentary	5,376								
" Photograph Tickets		81,211							
" Special Press Passes			1,057						
" " Day Passes				1,125					
" Workmen					5,321				
" Guard						1,832			
" Firemen							674		
" Return Checks								22,339	
" Free, Exhibitors, etc									118,935
" Cash Admissions at Fifty Cents									
" " " Twenty-five Cents, including Schools									
" Number of Cash Admissions									
Grand Total									
Total Receipts from Admissions									

RECEIPTS FOR NOVEMBER.

Cash.			Grand Total.	RECEIPTS.	WEATHER REPORT.	REMARKS.
Fifty Cents.	Schools, Twenty-five Cents.	Total.				
106,578	1,137	107,715	120,478	$53,573.25	Clear.	
114,196	1,102	115,298	128,022	57,373.50	Fair.	Dedication of Monument to Bishop Allen by Colored Citizens.
81,684	2,210	83,894	96,191	41,394.50	Rain.	
81,118	3,012	84,130	97,047	41,312.00	Clear.	
76,632	1,304	77,936	90,317	38,642.00	Cloudy.	
74,357	1,696	76,053	87,859	37,602.50	Rain.	Reception of Women's Centennial Executive Committee at Women's Building.
89,161	1,427	90,588	103,127	44,937.25	Cloudy.	
170,167	6,757	176,924	193,078	86,772.75	Clear.	International Pyrotechnic Contest.
101,901	4,466	106,367	121,721	52,067.00	Rain.	Closing Ceremonies at Judges' Hall.
895,794						
....	23,111					
....	....	918,905				
....	....	....	1,037,840			
....	....	....	....	$453,674.75		

TABLE SHOWING THE TOTAL NUMBER OF ADMISSIONS OF EACH CLASS AND RECEIPTS UP TO ANY DAY DURING THE EXHIBITION.

DATE. 1876.	FREE, EXHIBITORS, ETC., ADMISSIONS.					CASH ADMISSIONS.				GRAND TOTAL.	RECEIPTS.
	Live-Stock, Complimentary.	Main Exhibition, Complimentary.	Live-Stock Exhibitors and Attendants.	Main Exhibition, Exhibitors and Attendants.	Total.	Live-Stock, Twenty-five Cents.	Main Exhibition, Fifty Cents.	Main Exhibition, Twenty-five Cents.	Total.		
Wednesday, May 10	....	....	....	....	110,500	....	76,172	....	76,172	186.672	$38,085.95
Thursday, " 11	....	2,001	....	2,274	4,275	....	14,722	....	14,722	18,997	7,361.25
Friday, " 12	....	2,001	....	2,274	114,775	....	90,894	....	90,894	205,669	45,447.20
	....	162	....	2,306	2,468	....	10,252	....	10,252	12,720	5,126.00
Saturday, " 13	....	2,163	....	4.580	117,243	....	101,146	....	101,146	218,389	50,573.20
	....	357	....	4,847	5,204	....	11,658½	....	11,658½	16,862½	5,829.25
Monday, " 15	....	2,520	....	9,427	122,447	....	112,804½	....	112,804½	235,251½	56,402.45
	....	367	....	4,585	4,952	....	10,896½	....	10,896½	15,848½	5,448.25
Tuesday, " 16	....	2,887	....	14,012	127,399	....	123,701	....	123,701	251,100	61,850.70
	....	355	....	5,702	6,057	....	7,056	....	7,056	13,113	3,528.00
Wednesday, " 17	....	3,242	....	19,714	133.456	....	130,757	....	130,757	264,213	65,378.70
	....	387	....	6,208	6,595	....	12,117	....	12,117	18,712	6,058.50
Thursday, " 18	....	3,629	....	25,922	140,051	....	142,874	....	142,874	282,925	71,437.20
	....	440	....	6,325	6,765	....	11,054	....	11,054	17,819	5,527.00
Friday, " 19	....	4,069	....	32,247	146,816	....	153,928	....	153,928	300,744	76,964.20
	....	480	....	7,047	7,527	....	16,100	....	16,100	23,627	8,050.05
Saturday, " 20	....	4,549	....	39,294	154,343	....	170,028	....	170,028	324,371	85,014.25
	....	546	....	7,379	7,925	....	18,191½	....	18,191½	26,116½	9,095.75
Monday, " 22	....	5,095	....	46,673	162,268	....	188,219½	....	188,219½	350,487½	94,110.00
	....	540	....	7,928	8,468	....	12,402½	....	12,402½	20,870½	6,201.25
Tuesday, " 23	....	5,635	....	54,601	170.736	....	200,622	....	200,622	371,358	100,311.25
	....	577	....	7,548	8,125	....	17,552½	....	17,552½	25,677½	8,776.25
Wednesday, " 24	....	6,212	....	62,149	178,861	....	218,174½	....	218,174½	397,035½	109,087.50
	....	655	....	8,997	9,652	....	20,538	....	20,538	30,190	10,269.00
Thursday, " 25	....	6,867	....	71,146	188,513	....	238,712½	....	238,712½	427,225½	119,356.50
	....	586	....	6,749	7,335	....	19,821½	....	19,821½	27,156½	9,910.75
	....	7,453	....	77,895	195,848	....	258,534	....	258,534	454,382	129,267.25

Friday,	"	20	......	587	......	6,740	7,327	......	16,792	......	16,792	24,119	8,396.00
Saturday,	"	27	....	8,040 540	....	84,635 7,079	203,175 7,619	....	275,326 20,091½	....	275,326 20,091½	478,501 27,710½	137,663.25 10,045.75
Monday,	"	29	....	8,580 493	....	91,714 6,772	210,794 7,265	....	295,417½ 16,202	....	295,417½ 16,202	506,211½ 23,467	147,709.00 8,101.00
Tuesday,	"	30	....	9,073 637	....	98,486 6,905	218,059 7,542	....	311,619½ 41,111½	....	311,619½ 41,111½	529,678½ 48,653½	155,810.00 20,555.85
Wednesday,	"	31	....	9,710 634	....	105,391 8,280	225,601 8,914	....	352,731 26,249	....	352,731 26,249	578,332 35,163	176,365.85 13,124.50
Thursday,	June	1	....	10,344 630	....	113,671 7,046	234,515 7,676	....	378,980 23,200	....	378,980 23,200	613,495 30,876	189,490.35 11,600.00
Friday,	"	2	....	10,974 654	....	120,717 8,513	242,191 9,167	....	402,180 26,637	....	402,180 26,637	644,371 35,804	201,090.35 13,318.60
Saturday,	"	3	....	11,628 560	....	129,230 7,889	251,358 8,449	....	428,817 22,292	....	428,817 22,292	680,175 30,741	214,408 95 11,146 00
Monday,	"	5	....	12,188 775	....	137,119 9,769	259,807 10,544	....	451,109 27,555	....	451,109 27,555	710,916 38,099	225,554.95 13,777.51
Tuesday,	"	6	....	12,963 652	....	146,888 9,619	270,351 10,271	....	478,664 28,354½	....	478,664 28,354½	749,015 38,625½	239,332.46 14,177.35
Wednesday,	"	7	....	13,615 672	....	156,507 10,203	280,622 10,875	....	507,018½ 31,673	....	507,018½ 31,673	787,640½ 42,548	253,509.81 15,836.50
Thursday,	"	8	....	14,287 647	....	166,710 8,799	291,497 9,446	....	538,691½ 31,634½	....	538,691½ 31,634½	830,188½ 41,080½	269,346.31 15,817.25
Friday,	"	9	....	14,934 683	....	175,509 8,926	300,943 9,609	....	570,326 24,693	....	570,326 24,693	871,269 34,302	285,163.56 12,346.50
Saturday,	"	10	....	15,617 674	....	184,435 9,129	310,552 9,803	....	595,019 28,948	....	595,019 28,948	905,571 38,751	297,510.06 14,474.00
Monday,	"	12	....	16,291 715	....	193,564 8,835	320,355 9,550	....	623,967 21,379½	....	623,967 21,379½	944,322 30,929½	311,984.06 10,689.75
Tuesday,	"	13	....	17,006 636	....	202,399 8,701	329,905 9,337	....	645,346½ 24,223	....	645,346½ 24,223	975,251½ 33,560	322,673.81 12,111.50
Wednesday,	"	14	....	17,642 672	....	211,100 9,229	339,242 9,901	....	669,569½ 29,812	....	669,569½ 29,812	1,008,811½ 39,713	334,785.31 14,906.00
Thursday,	"	15	....	18,314 755	....	220,329 8,887	349,143 9,642	....	699,381½ 31,937½	....	699,381½ 31,937½	1,048,524½ 41,579½	349,691.31 15,968.75
Friday,	"	16	....	19,069 663	....	229,216 8,804	358,785 9,467	....	731,319 25,903	....	731,319 25,903	1,090,104 35,370	365,660.06 12,951.50
Saturday,	"	17	....	19,732 612	....	238,020 8,870	368,252 9,482	....	757,222 25,902	....	757,222 25,902	1,125,474 35,384	378,611.56 12,951.00
Monday,	"	19	....	20,344 734	....	246,890 8,647	377,734 9,381	....	783,124 23,372	....	783,124 23,372	1,160,858 32,753	391,562.56 11,686.10
			......	21,078	......	255,537	387,115	......	806,496	......	806,496	1,193,611	403,248.66

TABLE SHOWING THE TOTAL NUMBER OF ADMISSIONS AND RECEIPTS, ETC.—*Continued.*

DATE. 1876.	FREE, EXHIBITORS, ETC., ADMISSIONS.					CASH ADMISSIONS.				GRAND TOTAL.	RECEIPTS.
	Live-Stock, Complimentary.	Main Exhibition, Complimentary.	Live-Stock Exhibitors and Attendants.	Main Exhibition, Exhibitors and Attendants.	Total.	Live-Stock, Twenty-five Cents.	Main Exhibition, Fifty Cents.	Main Exhibition, Twenty-five Cents.	Total.		
Forward		21,078		255,537	387,115		806,496		806,496	1,193,611	$403,248.66
Tuesday, June 20		669		8,662	9,331		27,204		27,204	36,535	13,602.00
Wednesday, " 21		21,747		264,199	396,446		833,700		833,700	1,230,146	416,850.66
		690		9,075	9,765		32,134½		32,134½	41,899½	16,067.25
Thursday, " 22		22,437		273,274	406,211		865,834½		865,834½	1,272,045½	432,917.91
		676		9,229	9,905		39,386½		39,386½	49,291½	19,693.25
Friday, " 23		23,113		282,503	416,116		905,221		905,221	1,321,337	452,611.16
		690		8,922	9,612		27,693		27,693	37,305	13,846.55
Saturday, " 24		23,803		291,425	425,728		932,914		932,914	1,358,642	466,457.71
		661		8,987	9,648		25,103		25,103	34,751	12,551.50
Monday, " 26		24,464		300,412	435,376		958,017		958,017	1,393,393	479,009.21
		813		10,856	11,669		21,120		21,120	32,789	10,560.00
Tuesday, " 27		25,277		311,268	447,045		979,137		979,137	1,426,182	489,569.21
		643		9,580	10,223		20,343		20,343	30,566	10,171.50
Wednesday, " 28		25,920		320,848	457,268		999,480		999,480	1,456,748	499,740.71
		722		10,356	11,078		23,590		23,590	34,668	11,795.00
Thursday, " 29		26,642		331,204	468,346		1,023,070		1,023,070	1,491,416	511,535.71
		738		10,319	11,057		27,034½		27,034½	38,091½	13,517.25
Friday, " 30		27,380		341,523	479,403		1,050,104½		1,050,104½	1,529,507½	525,052.96
		586		11,037	11,623		24,541½		24,541½	36,164½	12,270.80
Saturday, July 1		27,966		352,560	491,026		1,074,646		1,074,646	1,565,672	537,323.76
		769		10,650	11,419		26,410		26,410	37,829	13,205.00
Monday, " 3		28,735		363,210	502,445		1,101,056		1,101,056	1,603,501	550,528.76
		958		11,355	12,313		47,786		47,786	60,099	23,893.00
Tuesday, " 4		29,693		374,565	514,758		1,148,842		1,148,842	1,663,600	574,421.76
		565		9,639	10,204		46,290½		46,290½	56,494½	23,145.36
Wednesday, " 5		30,258		384,204	524,962		1,195,132½		1,195,132½	1,720,094½	597,567.12
		917		10,084	11,001		51,825½		51,825½	62,826½	25,912.80
		31,175		394,288	535,963		1,246,958		1,246,958	1,782,921	623,479.92

Thursday,	" 6......	....	661	....	10,861	11,522	....	46,088	....	46,088	57,610	23,044 06
Friday,	" 7......	....	31,836	....	405,149	547,485	....	1,293,046	....	1,293,046	1,840,531	646,523.98
		....	638	....	10,415	11,053	....	33,746	....	33,746	44,799	16,873.00
Saturday,	" 8......	....	32,474	....	415,564	558,538	....	1,326,792	....	1,326,792	1,885,330	663,396.98
		....	570	....	10,247	10,817	....	23,207	....	23,207	34,024	11,603.50
Monday	" 10......	....	33,044	....	425,811	569,355	....	1,349,999	....	1,349,999	1,919,354	675,000.48
		....	460	....	10,066	10,526	....	19,133	....	19,133	29,659	9,566.50
Tuesday,	" 11......	....	33,504	....	435,877	579,881	....	1,369,132	....	1,369,132	1,949,013	684,566.98
		....	412	....	10,101	10,513	....	20,645	....	20,645	31,158	10,322.50
Wednesday,	" 12......	....	33,916	....	445,978	590,394	....	1,389,777	....	1,389,777	1,980,171	694,889.48
		....	420	....	9,891	10,311	....	20,575	....	20,575	30,886	10,287 50
Thursday,	" 13......	....	34,336	....	455,869	600,705	....	1,410,352	....	1,410,352	2,011,057	705,176.98
		....	390	....	9,676	10,066	....	18,352	....	18,352	28,418	9,176.01
Friday,	" 14......	....	34,726	....	465,545	610,771	....	1,428,704	....	1,428,704	2,039,475	714,352.99
		....	405	....	9,849	10,254	....	18,333½	....	18,333½	28,587½	9.166.75
Saturday,	" 15......	....	35,131	....	475,394	621,025	....	1,447,037½	....	1,447,037½	2,068,062½	723,519.74
		....	374	....	9.653	10,027	....	16,057	....	16,057	26,084	8,028.50
Monday,	" 17......	....	35,505	....	485,047	631,052	....	1,463,094½	....	1,463,094½	2,094,146½	731,548.24
		....	520	....	9,847	10,367	....	18,270	....	18,270	28,637	9,135.00
Tuesday,	" 18......	....	36,025	....	494,894	641,419	....	1,481,364½	....	1,481,364½	2,122,783½	740,683.24
		....	534	....	9,577	10,111	....	19,184	....	19,184	29,295	9.592.00
Wednesday,	" 19......	....	36,559	....	504,471	651,530	....	1,500,548½	....	1,500,548½	2,152,078½	750,275.24
		....	516	....	9,503	10,019	....	18,729	....	18,729	28,748	9,364.50
Thursday,	" 20......	....	37,075	....	513,974	661,549	....	1,519,277½	....	1,519,277½	2,180,826½	759,639.74
		....	429	....	8,826	9,255	....	16,681	....	16,681	25,936	8,340.50
Friday,	" 21......	....	37,504	....	522,800	670,804	....	1,535,958½	....	1,535,958½	2,206,762½	767,980.24
		....	476	....	9,202	9,678	....	17,714	....	17,714	27,392	8,857.00
Saturday,	" 22......	....	37,980	....	532,002	680,482	....	1,553,672½	....	1,553,672½	2,234,154½	776,837.24
		....	446	....	9,349	9,795	....	16,941	....	16,941	26,736	8,470.50
Monday,	" 24......	....	38,426	....	541,351	690,277	....	1,570,613½	....	1,570,613½	2,260,890½	785,307.74
		....	557	....	10,005	10,562	....	20,730	48	20,778	31,340	10,377.00
Tuesday,	" 25......	....	38,983	....	551,356	700,839	....	1,591,343½	48	1,591,391½	2,292,230½	795,684.74
		....	509	....	9,086	9,595	....	21,914	....	21,914	31,509	10,957.00
Wednesday,	" 26......	....	39,492	....	560,442	710,434	....	1,613,257½	48	1,613,305½	2,323,739½	806,641.74
		....	493	....	9.493	9,986	....	22,870	59	22,929	32,915	11,449.75
Thursday,	" 27......	....	39,985	....	569,935	720,420	....	1,636,127½	107	1,636,234½	2,356,654½	818,091.49
		....	511	....	9,468	9.979	....	24,716½	130	24,846½	34,825½	12,390.75
Friday,	" 28......	....	40,496	....	579,403	730,399	....	1,660,844	237	1,661,081	2,391,480	830,482.24
		....	520	....	9.537	10,057	....	18,924	....	18,924	28,981	9,462.00
Saturday,	" 29......	....	41,016	....	588,940	740,456	....	1,679,768	237	1,680,005	2,420,461	839,944.24
		....	490	....	9,452	9,942	....	15,949	3	15,952	25,894	7,975.25
		....	41,506	....	598,392	750,398	....	1,695,717	240	1,695.957	2,446,355	847,919.49

TABLE SHOWING THE TOTAL NUMBER OF ADMISSIONS AND RECEIPTS, ETC.—*Continued.*

DATE. 1876.	FREE, EXHIBITORS, ETC., ADMISSIONS.					CASH ADMISSIONS.				GRAND TOTAL.	RECEIPTS.
	LIVE-STOCK, COMPLIMENTARY.	MAIN EXHIBITION, COMPLIMENTARY.	LIVE-STOCK EXHIBITORS AND ATTENDANTS.	MAIN EXHIBITION, EXHIBITORS AND ATTENDANTS.	TOTAL.	LIVE-STOCK, TWENTY-FIVE CENTS.	MAIN EXHIBITION, FIFTY CENTS.	MAIN EXHIBITION, TWENTY-FIVE CENTS.	TOTAL.		
Forward....................	....	41,506	....	598,392	750,398	....	1,695,717	240	1,695,957	2,446,355	$847,919.49
Monday, July 31..........	....	415	....	10,142	10,557	....	15,207	....	15,207	25,764	7,603.50
Tuesday, August 1...	....	41,921	....	608,534	760,955	....	1,710,924	240	1,711,164	2,472,119	855,522.99
	....	444	....	9,200	9,644	....	22,141	54	22,195	31,839	11,084.00
Wednesday, " 2...	....	42,365	....	617,734	770,599	....	1,733,065	294	1,733,359	2,503,958	866,606.99
	....	428	....	9,176	9,604	....	24,246	....	24,246	33,850	12,123.00
Thursday, " 3...	....	42,793	....	626,910	780,203	....	1,757,311	294	1,757,605	2,537,808	878,729.99
	....	454	....	9,339	9,793	....	27,667	273	27,940	37,733	13,901.75
Friday, " 4...	....	43,247	....	636,249	789,996	....	1,784,978	567	1,785,545	2,575,541	892,631.74
	....	447	....	9,329	9,776	....	25,015	....	25,015	34,791	12,507.50
Saturday, " 5...	....	43,694	....	645,578	799,772	....	1,809,993	567	1,810,560	2,610,332	905,139.24
	....	426	....	9,570	9,996	....	22,304	....	22,304	32,300	11,152.00
Monday, " 7...	....	44,120	....	655,148	809,768	....	1,832,297	567	1,832,864	2,642,632	916,291.24
	....	398	....	10,113	10,511	....	23,376	25	23,401	33,912	11,694.25
Tuesday, " 8...	....	44,518	....	665,261	820,279	....	1,855,673	592	1,856,265	2,676,544	927,985.49
	....	391	....	9,069	9,460	....	23,939	120	24,059	33,519	11,999.50
Wednesday, " 9...	....	44,909	....	674,330	829,739	....	1,879,612	712	1,880,324	2,710,063	939,984.99
	....	376	....	9,262	9,638	....	29,818	120	29,938	39,576	14,939.00
Thursday, " 10...	....	45,285	....	683,592	839,377	....	1,909,430	832	1,910,262	2,749,639	954,923.99
	....	346	....	8,897	9,243	....	26,072	82	26,154	35,397	13,056.50
Friday, " 11...	....	45,631	....	692,489	848,620	....	1,935,502	914	1,936,416	2,785,036	967,980.49
	....	374	....	9,241	9,615	....	25,880	13	25,893	35,508	12,943 25
Saturday, " 12...	....	46,005	....	701,730	858,235	....	1,961,382	927	1,962,309	2,820,544	980,923.74
	....	346	....	9,503	9,849	....	22,240	74	22,314	32,163	11,138.50
Monday, " 14...	....	46,351	....	711,233	868,084	....	1,983,622	1,001	1,984,623	2,852,707	992,062.24
	....	404	....	9,812	10,216	....	22,656	8	22,664	32,880	11,330.00
Tuesday, " 15...	....	46,755	....	721,045	878,300	....	2,006,278	1,009	2,007,287	2,885,887	1,003,392.24
	....	412	....	9,059	9,471	....	25,283	63	25,346	34,817	12,657.25
	....	47,167	....	730,104	887,771	....	2,031,561	1,072	2,032,633	2,920,404	1,016,049.49

Wednesday, " 16...	......	386	......	9,113	9,499	......	28,341	119	28,460	37,959	14,200.25
Thursday, " 17...	....	47,553 306	....	739,217 8,963	897,270 9,269	....	2,059,902 27,031	1,191 166	2,061,093 27,197	2,958,363 36,466	1,030,249.74 13,557.00
Friday, " 18...	....	47,859 368	....	748,180 9,150	906,539 9,518	....	2,086,933 25,664	1,357 125	2,088,290 25,789	2,994,829 35,307	1,043,8 6.74 12,863.25
Saturday, " 19...	....	48,227 352	....	757,330 9,252	916,057 9,604	....	2,112,597	1,482 54,045	2,114,079 54,045	3,030,136 63,649	1,056,669.99 13,511.25
Monday, " 21...	....	48,579 437	....	766,582 9,981	925,661 10,418	....	2,112,597 28,981	55,527	2,168,124 28,981	3,093,785 39,399	1,070,181,24 14,490.50
Tuesday, " 22...	....	49,016 353	....	776,563 9,319	936,079 9,672	....	2,141,578 31,825	55,527 202	2,197,105 32,027	3,133,184 41,699	1,084,671.74 15,963.00
Wednesday, " 23...	....	49,369 381	....	785,882 9,415	945,751 9,796	....	2,173,403 39,082	55,729 313	2,229,132 39,395	3,174,883 49,191	1,100,634.74 19,619.25
Thursday, " 24...	....	49,750 479	....	795,297 10,248	955,547 10,727	....	2,212,485 55,930	56,042 395	2,268,527 56,325	3,224,074 67,052	1,120,253.99 28,063.75
Friday, " 25...	....	50,229 387	....	805,545 9,426	966,274 9,813	....	2,268,415 32,298	56,437	2,324,852 32,298	3,291,126 42,111	1,148,317.74 16,149 00
Saturday, " 26...	....	50,616 383	....	814,971 10,075	976,087 10,458	....	2,300,713	56,437 97,172	2,357,150 97,172	3,333,237 107,630	1,164,466.74 24,293.00
Monday, " 28...	....	50,999 369	....	825,046 10,057	986,545 10,426	....	2,300,713 34,653	153,609 146	2,454,322 34,799	3,440,867 45,225	1,188,759.74 17,363.00
Tuesday, " 29...	....	51,368 375	....	835,103 9,767	996,971 10,142	....	2,335,366 41,310	153,755 10	2,489,121 41,320	3,486,092 51,462	1,206,122.74 20,657.50
Wednesday, " 30...	....	51,743 352	....	844,870 9,778	1,007,113 10,130	....	2,376,676 43,424	153,765 183	2,530,441 43,607	3,537,554 53,737	1,226,780.24 21,757.75
Thursday, " 31...	....	52,095 360	....	854,648 9,982	1,017,243 10,342	....	2,420,100 44,777	153,948 1,023	2,574,048 45,800	3,591,291 56,142	1,248,537.99 22,644.25
Friday, September 1...	 34	52,455 414	 124	864,630 9,807	1,027,585 10,379	 530	2,464,877 34,182	154,971 17	2,619,848 34,729	3,647,433 45,108	1,271,182.24 17,227.75
Saturday, " 2...	34 34	52,869 424	124 149	874,437 10,304	1,037,964 10,911	530 821	2,499,059	154,988 58,591	2,654,577 59,412	3,692,541 70,323	1,288,409.99 14,853.00
Monday, " 4...	68 96	53,293 808	273 217	884,741 10,484	1,048,875 11,605	1,351 1,957	2,499,059 35,495	213,579 176	2,713,989 37,628	3,762,864 49,233	1,303,262.99 18,280.75
Tuesday, " 5...	164 106	54,101 471	490 362	895,225 10,011	1,060,480 10,950	3,308 3,529	2,534,554 50,209	213,755 217	2,751,617 53,955	3,812,097 64,905	1,321,543.74 26,041.00
Wednesday, " 6...	270 127	54,572 459	852 434	905,236 9,805	1,071,430 10,825	6,837 5,881	2,584,763 53,395	213,972 164	2,805,572 59,440	3,877,002 70,265	1,347,584.74 28,208.75
Thursday, " 7...	397 77	55,031 492	1,286 495	915,041 9,921	1,082,255 10,985	12,718 4,493	2,638,158 59,356	214,136 210	2,865,012 64,059	3,947,267 75,044	1,375,793,49 30,853.75
Friday, " 8...	474 124	55,523 500	1,781 666	924,962 10,050	1,093,240 11,340	17,211 8,164	2,697,514 50,604	214,346 140	2,929,071 58,908	4,022,311 70,248	1,406,647.24 27,378.00
	598	56,023	2,447	935,012	1,104,580	25,375	2,748,118	214,486	2,987,979	4,092,559	1,434,025.24

TABLE SHOWING THE TOTAL NUMBER OF ADMISSIONS AND RECEIPTS, ETC.—*Continued.*

DATE. 1876.	FREE, EXHIBITORS, ETC., ADMISSIONS.					CASH ADMISSIONS.				GRAND TOTAL.	RECEIPTS.
	LIVE-STOCK, COMPLIMENTARY.	MAIN EXHIBITION, COMPLIMENTARY.	LIVE-STOCK EXHIBITORS AND ATTENDANTS.	MAIN EXHIBITION, EXHIBITORS AND ATTENDANTS.	TOTAL.	LIVE-STOCK, TWENTY-FIVE CENTS.	MAIN EXHIBITION, FIFTY CENTS.	MAIN EXHIBITION, TWENTY-FIVE CENTS.	TOTAL.		
Forward.................... Saturday, September 9	598 50	56,023 552	2,447 357	935,012 11,064	1,104,580 12,023	25,375 4,330	2,748,118	214,486 99,984	2,987,979 104,314	4,092,559 116,337	$1,434,025.24 26,078.50
Monday, " 11	648 31	56,575 448	2,804 301	946,076 10,630	1,116,603 11,410	29,705 671	2,748,118 40,838	314,470	3,092,293 41,509	4,208,896 52,919	1,460,103.74 20,586.75
Tuesday, " 12	679 48	57,023 472	3,105 406	956,706 10,402	1,128,013 11,328	30,376 3,911	2,788,956 59,089	314,470	3,133,802 63,000	4,261,815 74,328	1,480,690.49 30,522.25
Wednesday, " 13	727 55	57,495 532	3,511 408	967,108 10,777	1,139,341 11,772	34,287 6,420	2,848,045 72,502	314,470 33	3,196,802 78,955	4,336,143 90,727	1,511,212.74 37,864.25
Thursday, " 14	782 51	58,027 554	3,919 393	977,885 11,075	1,151,113 12,073	40,707 6,818	2,920,547 78,977	314,503	3,275,757 85,795	4,426,870 97,868	1,549,076.99 41,193.00
Friday, " 15	833 11	58,581 511	4,312 198	988,960 10,846	1,163,186 11,566	47,525 505	2,999,524 63,813	314,503 23	3,361,552 64,341	4,524,738 75,907	1,590,269.99 32,038.50
Saturday, " 16	844 9	59,092 482	4,510 174	999,806 11,200	1,174,752 11,865	48,070 166	3,063,337	314,526 91 914	3,425,893 92,080	4,600,645 103,945	1,622,308.49 23,020.00
Monday, " 18	853 5	59,574 449	4,684 137	1,011,006 11,043	1,186,617 11,634	48,196 109	3,063,337 62,623	406,440 209	3,517,973 62,941	4,704,590 74,575	1,645,328.49 31,391.00
Tuesday, " 19	858 13	60,023 512	4,821 155	1,022,049 11,121	1,198,251 11,801	48,305 240	3,125,960 92,413	406,649 213	3,580,914 92,866	4,779,165 104,667	1,676,719.49 46,319.75
Wednesday, " 20	871 19	60,535 516	4,976 140	1,033,170 11,186	1,210,052 11,861	48,545 749	3,218,373 100,502	406,862 247	3,673,780 101,498	4,883,832 113,359	1,723,039.24 50,500.00
Thursday, " 21	890 28	61,051 597	5,116 136	1,044,356 11,824	1,221,913 12,585	49,294 3,284	3,318,875 117,941	407,109 778	3,775,278 122,003	4,997,191 134,588	1,773,539.24 59,986.00
Friday, " 22	918 31	61,648 450	5,252 221	1,056,180 11,216	1,234,498 11,918	52,578 3,212	3,436,816 85,953	407,887 268	3,897,281 89,433	5,131,779 101,351	1,833,525.24 43,846.50
Saturday, " 23	949 15	62,098 380	5,473 225	1,067,396 10,585	1,246,416 11,205	55,790 726	3,522,769	408,155 83,901	3,986,714 84,627	5,233,130 95,832	1,877,371.74 21,156.75
Monday, " 25	964 32	62,478 511	5,698 265	1,077,981 11,445	1,257,621 12,253	56,516 2,395	3,522,769 66,281	492,056 36	4,071,341 68,712	5,328,962 80,965	1,898,528.49 33,748.25
	996	62,989	5,963	1,089,426	1,269,874	58,911	3,589,050	492,092	4,140,053	5,409,927	1,932,276.74

Tuesday,	"	26	43	444	339	10,986	11,812	2,398	78,216	330	80,944	92,756	39,790.00
Wednesday,	"	27	1,039 51	63,433 1,128	6,302 389	1,100,412 11,661	1,281,686 13,229	61,309 3,376	3,667,266 89,654	492,422	4,220,997 93,030	5,502,683 106,259	1,972,066.74 45,671.00
Thursday,	"	28	1,090 42	64,561 1,314	6,691 387	1,112,073 16,007	1,294,915 17,750	64,685 5,837	3,756,920 217,526	492,422 33,806	4,314,027 257,169	5,608,942 274,919	2,017,737.74 118,673.75
Friday,	"	29	1,132 55	65,875 473	7,078 360	1,128,080 10,933	1,312,665 11,821	70,522 3,268	3,974,446 71,664	526,228 41	4,571,196 74,973	5,883,861 86,794	2,136,411.49 36,659.25
Saturday,	"	30	1,187 19	66,348 415	7,438 355	1,139,013 11,008	1,324,486 11,797	73,790 1,285	4,046,110	526,269 103,385	4,646,169 104,670	5,970,655 116,467	2,173,070.74 26,167.50
Monday,	October	2	1,206 19	66,763 480	7,793 363	1,150,021 11,759	1,336,283 12,621	75,075 2,309	4,046,110 65,865	629,654	4,750,839 68,174	6,087,122 80,795	2,199,238.24 33,509.75
Tuesday,	"	3	1,225 30	67,243 1,020	8,156 254	1,161,780 11,254	1,348,904 12,558	77,384 3,116	4,111,975 77,536	629,654 205	4,819,013 80,857	6,167,917 93,415	2,232,747.99 39,598.25
Wednesday,	"	4	1,255 28	68,263 474	8,410 432	1,173,034 11,269	1,361,462 12,203	80,500 3,246	4,189,511 87,577	629,859 63	4,899,870 90,886	6,261,332 103,089	2,272,346.24 44,615.75
Thursday,	"	5	1,283 9	68,737 463	8,842 75	1,184,303 11,339	1,373,665 11,886	83,746 83	4,277,088 88,924	629,922 53	4,990,756 89,060	6,364,421 100,946	2,316,961.99 44,496.00
Friday,	"	6	1,292 3	69,200 513	8,917 55	1,195,642 11,531	1,385,551 12,102	83,829 19	4,366,012 76,046	629,975 102	5,079,816 76,167	6,465,367 88,269	2,361,457.99 38,053.25
Saturday,	"	7	1,295 5	69,713 457	8,972 53	1,207,173 11,746	1,397,653 12,261	83,848 25	4,442,058 72,576	630,077 293	5,155,983 72,894	6,553,636 85,155	2,399,511.24 36,367.50
Monday,	"	9	1,300 4	70,170 497	9,025 26	1,218,919 12,145	1,409,914 12,672	83,873 72	4,514,634 71,704	630,370 32	5,228,877 71,808	6,638,791 84,480	2,435,878.74 35,878.00
Tuesday,	"	10	1,304 8	70,667 492	9,051 60	1,231,064 11,531	1,422,586 12,091	83,945 448	4,586,338 79,435	630,402 5	5,300,685 79,888	6,723,271 91,979	2,471,756.74 39,830.75
Wednesday,	"	11	1,312 17	71,159 499	9,111 99	1,242,595 12,049	1,434,677 12,664	84,393 709	4,665,773 93,449	630,407 173	5,380,573 94,331	6,815,250 106,995	2,511,587.49 46,945.00
Thursday,	"	12	1,329 25	71,658 1,583	9,210 111	1,254,644 12,162	1,447,341 13,881	85,102 908	4,759,222 100,603	630,580 30	5,474,904 101,541	6,922,245 115,422	2,558,532.49 50,536.00
Friday,	"	13	1,354 23	73,241 483	9,321 147	1,266,806 11,685	1,461,222 12,338	86,010 879	4,859,825 80,505	630,610 542	5,576,445 81,926	7,037,667 94,264	2,609,068.49 40,607.75
Saturday,	"	14	1,377 30	73,724 512	9,468 149	1,278,491 11,902	1,473,560 12,593	86,889 889	4,940,330 77,321	631,152 68	5,658,371 78,278	7,131,931 90,871	2,649,676.24 38,899.75
Monday,	"	16	1,407 16	74,236 560	9,617 159	1,290,393 12,136	1,486,153 12,871	87,778 666	5,017,651 73,871	631,220 120	5,736,649 74,657	7,222,802 87,528	2,688,575.99 37,132.00
Tuesday,	"	17	1,423 18	74,796 450	9,776 155	1,302,529 11,523	1,499,024 12,146	88,444 1,084	5,091,522 91,412	631,340 442	5,811,306 92,938	7,310,330 105,084	2,725,707.99 46,087.50
Wednesday,	"	18	1,441 18	75,246 643	9,931 159	1,314,052 13,277	1,511,170 14,097	89,528 920	5,182,934 123,080	631,782 777	5,904,244 124,777	7,415,414 138,874	2,771,795.49 61,964.25
Thursday,	"	19	1,459	75,889 1,814	10,090	1,327,329 13,238	1,525,267 15,052	90,448	5,306,014 160,115	632,559 1,240	6,029,021 161,355	7,554,288 176,407	2,833,759.74 80,367.50
			1,459	77,703	10,090	1,340,567	1,540,319	90,448	5,466,129	633,799	6,190,376	7,730,695	2,914,127.24

TABLE SHOWING THE TOTAL NUMBER OF ADMISSIONS AND RECEIPTS, ETC.—*Continued.*

DATE. 1876.	FREE, EXHIBITORS, ETC., ADMISSIONS.					CASH ADMISSIONS.				GRAND TOTAL.	RECEIPTS.
	LIVE-STOCK, COMPLIMENTARY.	MAIN EXHIBITION, COMPLIMENTARY.	LIVE-STOCK EXHIBITORS AND ATTENDANTS.	MAIN EXHIBITION, EXHIBITORS AND ATTENDANTS.	TOTAL.	LIVE-STOCK, TWENTY-FIVE CENTS.	MAIN EXHIBITION, FIFTY CENTS.	MAIN EXHIBITION, TWENTY-FIVE CENTS.	TOTAL.		
Forward.................. Friday, October 20	1,459	77,703 1,851	10,090	1,340,567 11,679	1,540,319 13,530	90,448	5,466,129 94,040	633,799 95	6,190,376 94,135	7,730,695 107,665	$2,914,127.24 47,043.75
Saturday, " 21	1,459	79,554 458	10,090	1,352,246 11,655	1,553,849 12,113	90,448	5,560,169 72,108	633,894 821	6,284,511 72,929	7,838,360 85,042	2,961,170.99 36,259.25
Monday, " 23	1,459	80,012 480	10,090	1,363,901 11,858	1,565,962 12,338	90,448	5,632,277 73,774	634,715 150	6,357,440 73,924	7,923,402 86,262	2,997,430.24 36,924.50
Tuesday, " 24	1,459	80,492 493	10,090	1,375,759 11,744	1,578,300 12,237	90,448	5,706,051 88,327	634,865 193	6,431,364 88,520	8,009,664 100,757	3,034,354.74 44,211.75
Wednesday, " 25	1,459	80,985 461	10,090	1,387,503 11,842	1,590,537 12,303	90,448	5,794,378 106,338	635,058 648	6,519,884 106,986	8,110,421 119,289	3,078,566.49 53,331.00
Thursday, " 26	1,459	81,446 778	10,090	1,399,345 12,583	1,602,840 13,361	90,448	5,900,716 121,818	635,706 482	6,626,870 122,300	8,229,710 135,661	3,131,897.49 61,029.50
Friday, " 27	1,459	82,224 565	10,090	1,411,928 11,952	1,616,201 12,517	90,448	6,022,534 94,377	636,188 1,186	6,749,170 95,563	8,365,371 108,080	3,192,926.99 47,485.00
Saturday, " 28	1,459	82,789 471	10,090	1,423,880 11,771	1,628,718 12,242	90,448	6,116,911 77,559	637,374 1,171	6,844,733 78,730	8,473,451 90,972	3,240,411.99 39,072.25
Monday, " 30	1,459	83,260 532	10,090	1,435,651 12,008	1,640,960 12,540	90,448	6,194,470 79,683	638,545 356	6,923,463 80,039	8,564,423 92,579	3,279,484.24 39,930.50
Tuesday, " 31	1,459	83,792 448	10,090	1,447,659 11,716	1,653,500 12,164	90,448	6,274,153 80,673	638,901 1,194	7,003,502 81,867	8,657,002 94,031	3,319,414.74 40,635.00
Wednesday, Novem. 1	1,459	84,240 494	10,090	1,459,375 12,269	1,665,664 12,763	90,448	6,354,826 106,578	640,095 1,137	7,085,369 107,715	8,751,033 120,478	3,360,049.74 53,573.25
Thursday, " 2	1,459	84,734 500	10,090	1,471,644 12,224	1,678,427 12,724	90,448	6,461,404 114,196	641,232 1,102	7,193,084 115,298	8,871,511 128,022	3,413,622.99 57,373.50
Friday, " 3	1,459	85,234 526	10,090	1,483,868 11,771	1,691,151 12,297	90,448	6,575,600 81,684	642,334 2,210	7,308,382 83,894	8,999,533 96,191	3,470,996.49 41,394.50
Saturday, " 4	1,459	85,760 540	10,090	1,495,639 12,377	1,703,448 12,917	90,448	6,657,284 81,118	644,544 3,012	7,392,276 84,130	9,095,724 97,047	3,512,390.99 41,312.00
	1,459	86,300	10,090	1,508,016	1,716,365	90,448	6,738,402	647,556	7,476,406	9,192,771	3,553,702.99

Monday, " 6	....	904	....	11,877	12,381	....	76,632	1,304	77,936	90,317	38,642.00
	1,459	86,804	10,090	1,519,893	1,728,746	90,448	6,815,034	648,860	7,554,342	9,283,088	3,592,344.99
Tuesday, " 7	....	486	....	11,320	11,806	....	74,357	1,696	76,053	87,859	37,602.50
	1,459	87,290	10,090	1,531,213	1,740,552	90,448	6,889,391	650,556	7,630,395	9,370,947	3,629,947.49
Wednesday, " 8	....	587	....	11,952	12,539	....	89,161	1,427	90,588	103,127	44,937.25
	1,459	87,877	10,090	1,543,165	1,753,091	90,448	6,978,552	651,983	7,720,983	9,474,074	3,674,884.74
Thursday, " 9	....	865	....	15,289	16,154	....	170,167	6,757	176,924	193,078	86,772.75
	1,459	88,742	10,090	1,558,454	1,769,245	90,448	7,148,719	658,740	7,897,907	9,667,152	3,761,657.49
Friday, " 10	....	874	....	14,480	15,354	....	101,901	4,466	106,367	121,721	52,067.00
Workmen at Gate "A" before 7 A.M. in May and June..........	....	....	....	....	1,784,599	....	....	....	....	9,788,873	
	....	....	....	....	122,093	....	....	....	....	122,093	
Total Com'y Live-Stock	1,459										
" " Main Exhibition......		89,616									
" Exhibitors and Attendants Live-Stock Exhib.			10,090								
" " " Main Exhibition....................				1,572,934							
" Free, Exhibitors, etc., Admissions....................					1,906,692						
" Cash Admissions Live-Stock Exhibition, at Twenty-five Cents....................						90,448					
" " Main Exhibition, at Fifty Cents....................							7,250,620				
" " " at Twenty-five Cents....................								663,206			
" " during the term of the Exhibition, 159 days....................									8,004,274		
" Cash, Free, Exhibitors, etc., during the term of the Exhibition, 159 days....................										9,910,966	
Total Receipts from Admissions " " " "											$3,813,724.49

[NOTE.—For Grand Total of admissions (10,164,489), and receipts from admissions ($3,833,636.49), see Grand Summary, page 472.]

ADMISSIONS FROM NOVEMBER 11

DATE. 1876.	ADMISSIONS.				
	FREE, EXHIBITORS, ETC.		CASH.		TOTAL.
	COMPLIMENTARY.	EXHIBITORS, ATTENDANTS, AND PRESS, PHOTOGRAPH TICKETS.	FIFTY CENTS.	TWENTY-FIVE CENTS.	
Saturday, November 11	438	11,763	15,142	254	27,597
Monday, " 13	311	10,898	7,672	105	18,986
Tuesday, " 14	309	10,192	4,598	57	15,156
Wednesday, " 15	145	9,170	1,863	19	11,197
Thursday, " 16	171	9,014	2,150	23	11,358
Friday, " 17	94	8,615	1,855	21	10,585
Saturday, " 18	33	8,117	884	30	9,064
Monday, " 20	4	4,675	268		4,947
Tuesday, " 21	11	6,113	488		6,612
Wednesday, " 22	1	6,149	701		6,851
Thursday, " 23		7,038	700		7,738
Friday, " 24		6,242		742	6,984
Saturday, " 25		6,225		1,202	7,427
Monday, " 27		5,093		545	5,638
Tuesday, " 28		4,978		620	5,598
Wednesday, " 29		5,143		565	5,708
Thursday, " 30		2,541		485	3,026
Friday, December 1		2,579		182	2,761
Saturday, " 2		4,225		190	4,415
Monday, " 4		3,693		256	3,949
Tuesday, " 5		3,729		192	3,921
Wednesday, " 6		4,106		297	4,403
Thursday, " 7		3,978		291	4,269
Friday, " 8		3,703		300	4,003
Saturday, " 9		3,030		35	3,065
Monday, " 11		3,236		66	3,302
Tuesday, " 12		3,295		73	3,368
Wednesday, " 13		3,163		156	3,319
Thursday, " 14		3,211		181	3,392
Friday, " 15		2,768		82	2,850
Saturday, " 16		2,218		37	2,255
Total Complimentary	1,517				
" Photograph Tickets		168,900			
" Cash Admissions at Fifty Cents			36,321		
" " " Twenty-five Cents				7,006	
" Number of Admissions					213,744
" Receipts from November 11 to December 16, inclusive					

TO DECEMBER 16, INCLUSIVE.

RECEIPTS.	TOTAL RECEIPTS FOR EACH WEEK.	WEATHER REPORT.	REMARKS.
$7,634.50	$7,634.50	Fair.	
3,862.25	....	Clear.	
2,313.25	....	Cloudy, light rain.	
936.25	....	Light rain.	
1,080.75	....	Fair.	
932.75	....	Cloudy.	
449.50	9,574.75	Light rain.	
134.00	....	Heavy rain.	
244.00	....	Cloudy.	
350.50	....	Fair.	
350.00	....	"	
185.50	....	Clear.	
300.50	1,564.50	"	
136.25	....	Cloudy, snow.	
155.00	....	Clear.	
141.25	....	Cloudy.	
121.25	....	"	
45.50	....	Cloudy, snow.	
47.50	646.75	" "	
64.00	....	Clear.	
48.00	....	"	
74.25	....	"	
72.75	....	"	
75.00	....	"	
8.75	342.75	Very cold.	
16.50	....	Cloudy.	
18.25	....	Fair.	
39.00	....	"	
45.25	....	"	
20.50	....	Clear.	
9.25	148.75	Clear and cold.	
$19,912.00			
....	$19,912.00		

SUMMARY OF ADMISSIONS DURING THE

MONTHS. 1876.	ADMISSIONS.										
	FREE, EXHIBITORS, ETC.										
	LIVE-STOCK.		MAIN EXHIBITION.								
	COMPLIMENTARY.	EXHIBITORS AND ATTENDANTS.	COMPLIMENTARY.	EXHIBITORS, ATTENDANTS, AND PRESS, PHOTOGRAPH TICKETS.	SPECIAL PRESS PASSES.	SPECIAL DAY PASSES.*	WORKMEN.	GUARD.	FIREMEN.	RETURN CHECKS.	TOTAL.
May..........	....	....	10,344	111,414	....	68	†73,634	....	....	....	§305,960
June..........	....	....	17,622	187,042	1,327	974	‡83,211	5,318	1,733	9,932	307,159
July..........	....	....	13,955	185,710	988	2,538	10,796	5,815	1,789	48,338	269,929
August.......	....	....	10,534	184,079	1,219	5,937	6,659	6,497	1,970	49,735	266,630
September..	1,206	7,793	14,308	201,298	2,493	2,972	11,222	6,693	2,009	58,704	308,698
October......	253	2,297	17,477	219,255	2,405	2,810	13,989	6,768	1,912	62,215	329,381
November..	....	....	5,376	81,211	1,057	1,125	5,321	1,832	674	22,339	118,935
Total Comp	1,459										
" Exhibitors....		10,090									
" Compl'y, Main Ex..			89,616								
" Photograph Tickets...........				1,170,009							
" Special Press Passes..............................					9,489						
" " Day Passes..						16,424					
" Workmen..							204,832				
" Guard..								32,923			
" Firemen...									10,087		
" Return Checks..										251,263	
" Free, Exhibitors, Attendants, etc., Admissions...											1,906,692
" Cash Admissions to Live-Stock Exhibition, at Twenty-five Cents...											
" " " Main Exhibition, at Fifty Cents..											
" " " " on seven Saturdays, at Twenty-five Cents............................											
" " " " Schools, at Twenty-five Cents..											
" Number of Cash Admissions during the term of the Exhibition, 159 days..											
" Number of Cash, Free, Exhibitors, etc., during the term of the Exhibition, 159 days....................											
" Receipts from Admissions..											

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* *Special Day Passes* includes "Persons living on the Grounds who entered after 6 o'clock P.M. at the Night Gate;" "Military who encamped on the Grounds and were out on leave;" "Workmen who arrived too late to be admitted at the regular Workman's Gate;" "Orchestras, Bands, and all persons having business with the several Departments."

TERM OF THE EXHIBITION, 159 DAYS.

CASH.					Grand Total.	RECEIPTS	REMARKS.
Live-Stock.	Main Exhibition.			Total.			
Twenty-five Cents.	Fifty Cents.	Twenty-five Cents.	Schools, Twenty-five Cents.				
....	378,980	....	....	378,980	684,940	$189,490.35	
....	695,666	....	....	695,666	1,002,825	347,833.41	
....	636,278	....	240	636,518	906,447	318,199.23	
....	753 953	151,217	3,514	908,684	1,175,314	415,659.25	
75,075	1,581,233	437,775	36,908	2,130,991	2,439,689	928,056.00	
15,373	2,308,716	....	10,441	2,334,530	2,663,911	1,160,811.50	
....	895,794	....	23,111	918,905	1,037,840	453,674.75	
90,448							
....	7,250,620						
....	....	588,992					
....	....	....	74,214				
....	....	....	....	8,004,274			
....	....	....	....	....	9,910,966		
....	....	....	....	....	....	$3,813,724.49	

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† Includes 71,445 admissions at Gate "A" before 7 o'clock A.M.

‡ Includes 50,648 admissions at Gate "A" before 7 o'clock A.M.

§ 110,500 free admissions on May 10 were estimated.

GRAND

DATE. 1876.	ADMISSIONS.										
	FREE, EXHIBITORS, ETC.										
	LIVE-STOCK.		MAIN EXHIBITION.								TOTAL.
	COMPLIMENTARY.	EXHIBITORS AND ATTENDANTS.	COMPLIMENTARY.	EXHIBITORS, ATTENDANTS, AND PRESS, PHOTOGRAPH TICKETS.	SPECIAL PRESS PASSES.	SPECIAL DAY PASSES.	WORKMEN.	GUARD.	FIREMEN.	RETURN CHECKS.	
From May 10 to November 10...	1,459	10,090	89,616	1,170,009	9,489	16,424	204,832	32,923	10,087	251,263	1,906,692
Different State Troops that entered the Grounds as organizations from May 10 to November 10...	....	....	....	....	....	....	....	....	....	....	39,779
From November 11 to December 16.............	....	....	1,517	168,900	....	....	....	....	....	....	170,417
Totals............	1,459	10,090	91,133	1,338,909	9,489	16,424	204,832	32,923	10,087	251,263	2,116,888

SUMMARY.

CASH.								
LIVE-STOCK.	MAIN EXHIBITION.			TOTAL.	GRAND TOTAL.	RECEIPTS.	REMARKS.
TWENTY-FIVE CENTS.	FIFTY CENTS.	TWENTY-FIVE CENTS.	SCHOOLS, TWENTY-FIVE CENTS.				
90,448	7,250,620	588,992	74,214	8,004,274	9,910,966	$3,813,724.49	
....	....	....	....	....	39,779		
....	36,321	7,006	....	43,327	213,744	19,912.00	
90,448	7,286,941	595,998	74,214	8,047,601	10,164,489	$3,833,636.49	

REPORT OF ADMISSIONS BY WEEKS,

WEEK ENDING	FREE, EXHIBITORS, ETC.										
	LIVE-STOCK.		MAIN EXHIBITION.								TOTAL.
	COMPLIMENTARY.	EXHIBIT'S AND ATT'S.	COMPLIMENTARY.	PHOTO. TICKETS.	SPECIAL PRESS.	SPECIAL DAY.	WORKMEN.	GUARD.	FIREMEN.	RETURN CHECKS.	
Sat'y, May 13..	....	....	2,520	9,427	....	....	....	....	....	....	122,447*
" " 20..	....	....	2,575	37,182	....	64	....	....	....	....	39,821
" " 27..	....	....	3,485	45,037	....	4	....	....	....	....	48,526
" June 3..	....	....	3,608	39,693	100	323	5,289	....	....	....	49,013
" " 10..	....	....	4,103	44,892	528	181	10,260	464	120	....	60,548
" " 17..	....	....	4,053	42,033	287	128	8,451	1,878	549	....	57,379
" " 24..	....	....	4,120	44,769	172	166	6,038	1,566	811	....	57,642
" July 1..	....	....	4,271	42,769	285	181	5,608	1,618	293	12,044	67,069
" " 8..	....	....	4,309	44,380	439	507	3,622	910	426	12,317	66,910
" " 15..	....	....	2,461	43,260	170	371	2,393	1,619	346	11,077	61,697
" " 22..	....	....	2,921	41,666	147	403	1,839	1,326	391	10,532	59,225
" " 29..	....	....	3,080	42,235	166	657	1,614	1,380	457	10,532	60,121
" Aug. 5..	....	....	2,614	41,123	139	1,518	1,616	1,350	444	10,566	59,370
" " 12..	....	....	2,231	40,107	215	1,660	1,355	1,575	459	10,714	58,316
" " 19..	....	....	2,228	39,987	239	1,308	1,208	1,540	428	10,639	57,577
" " 26..	....	....	2,420	42,008	329	1,323	1,515	1,361	446	11,482	60,884
" Sept. 2..	68	273	2,294	42,110	570	951	1,975	1,487	429	12,173	62,330
" " 9..	580	2,531	3,282	43,173	544	733	1,984	1,579	502	12,820	67,728
" " 16..	205	1,880	2,999	45,903	641	870	2,487	1,650	502	12,877	70,014
" " 23..	111	1,014	2,904	47,365	510	647	2,923	1,557	454	13,519	71,004
" " 30..	242	2,095	4,285	50,424	546	494	3,252	1,463	444	15,417	78,662
" Oct. 7..	94	1,232	3,407	48,697	520	595	3,236	1,490	438	13,922	73,631
" " 14..	107	592	4,066	50,373	522	1,144	2,913	1,648	458	14,416	76,239
" " 21..	52	473	5,776	52,140	604	712	3,158	1,486	454	14,954	79,809
" " 28..	....	....	3,248	51,784	565	267	3,049	1,489	415	14,181	74,998
" Nov. 4..	....	....	3,040	50,568	603	559	4,473	1,469	390	14,303	75,405
Frid'y, " 10..	....	....	3,316	46,904	648	658	2,481	1,018	431	12,778	68,234
Workmen at Gate "A" before 7 A.M. in May........................							71,445	....	....	....	71,445
Workmen at Gate "A" before 7 A.M. in June........................							50,648	....	....	....	50,648
Tot. Compl'ry.	1,459										
" Exh'rs and Att's.		10,090									
" Comp'y, Main Exhib'n..			89,616								
" Photograph Tickets................				1,170,009							
" Special Press Passes..............................					9,489						
" " Day Passes..						16,424					
" Workmen..							204,832				
" Guard..								32,923			
" Firemen..									10,087		
" Return Checks..										251,263	
" Free, Exhibitors, etc..											1,906,692
" Cash Admissions to Live-Stock Exhibition..											
" " " Main Exhibition, at Fifty Cents..											
" " " " " at Twenty-five Cents..											
" " " " " Schools, at Twenty-five Cents..											
" Number of Cash Admissions..											

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* The 110,500 free admissions estimated for May 10 are included in this Total.

FROM MAY 10 TO NOVEMBER 10, INCLUSIVE.

CASH.					GRAND TOTAL.	RECEIPTS.
LIVE-STOCK.	MAIN EXHIBITION.			TOTAL CASH.		
TWENTY-FIVE CENTS.	FIFTY CENTS.	TWENTY-FIVE CENTS.	SCHOOLS, TWENTY-FIVE CENTS.			
....	112,804½	....	....	112,804½	235,251½	$56,402.45
....	75,415	....	....	75,415	115,236	37,707.55
....	107,198	....	....	107,198	155,724	53,599.00
....	155,691½	....	....	155,691½	204,704½	77,845.95
....	172,858	....	....	172,858	233,406	86,429.11
....	159,157	....	....	159,157	216,536	79,578.50
....	174,893	....	....	174,893	232,535	87,446.65
....	143,039	....	....	143,039	210,108	71,519.55
....	248,943	....	....	248,943	315,853	124,471.72
....	113,095½	....	....	113,095½	174,792½	56,547.76
....	107,519	....	....	107,519	166,744	53,759.50
....	125,103½	....	240	125,343½	185,464½	62,611.75
....	136,580	....	327	136,907	196,277	68,371.75
....	151,325	....	434	151,759	210,075	75,771.00
....	128,975	54,045	481	183,501	241,078	78,119.00
....	188,116	97,172	910	286,198	347,082	118,578.50
1,351	198,346	58,591	1,379	259,667	321,997	114,503.25
28,354	249,059	99,984	907	378,304	446,032	156,840.75
18,491	315,219	91,914	56	425,680	495,694	185,224.75
8,320	459,432	83,901	1,715	553,368	624,372	253,200.00
18,559	523,341	103,385	34,213	679,498	758,160	300,709.75
8,798	468,524	....	716	478,038	551,669	236,640.50
3,905	503,017	....	850	507,772	584,011	252,697.25
2,670	614,626	....	3,495	620,791	700,600	308,854.25
....	562,193	....	3,830	566,023	641,021	282,054.00
....	543,932	....	9,011	552,943	628,348	274,218.75
....	512,218	....	15,650	527,868	596,102	260,021.50
....	....	....	....	....	71,445	....
....	....	....	....	....	50,648	....
90,448						
....	7,250,620					
....	....	588,992				
....	....	....	74,214			
....	....	....	....	8,004,274	9,910,966	$3,813,724.49

MONTHLY REPORT OF FREE, EXHIBITORS, ETC., ADMISSIONS, WITH DAILY AVERAGES.

		Free, Exhibitors, Etc.
Total Free, Exhibitors, etc., Admissions for May		305,960
Daily Average for May (19 days)	16,104	
Total Free, Exhibitors, etc., Admissions for June		307,159
Daily Average for June (26 days)	11,814	
Total Free, Exhibitors, etc., Admissions for July		269,929
Daily Average for July (26 days)	10,382	
Total Free, Exhibitors, etc., Admissions for August		266,630
Daily Average for August (27 days)	9,875	
Total Free, Exhibitors, etc., Admissions for September		308,698
Daily Average for September (26 days)	11,873	
Total Free, Exhibitors, etc., Admissions for October		329,381
Daily Average for October (26 days)	12,668	
Total Free, Exhibitors, etc., Admissions for November		118,935
Daily Average for November (9 days)	13,215	
Total Free, Exhibitors, etc., Admissions from May 10 to November 10 (inclusive)		1,906,692

Average Daily Free, Exhibitors, etc., Admissions from May 10 to November 10 (inclusive), 159 days, 11,992.

MONTHLY REPORT OF CASH ADMISSIONS AND RECEIPTS FROM ADMISSIONS, WITH DAILY AVERAGES.

		CASH ADMISSIONS.	RECEIPTS.
Total Cash Admissions for May		378,980	$189,490.35
Daily Average Cash Admissions for May (19 days)	19,946		
“ “ Receipts for May (19 days)	$9,973.17		
Total Cash Admissions for June		695,666	347,833.41
Daily Average Cash Admissions for June (26 days)	26,756		
“ “ Receipts for June (26 days)	$13,378.21		
Total Cash Admissions for July		636,518	318,199.23
“ “ “ Fifty Cents	636,278		
“ “ “ Twenty-five Cents	240		
Daily Average Cash Admissions for July (26 days)	24,481		
“ “ Receipts for July (26 days)	$12,238,43		
Total Cash Admissions for August		908,684	415,659.25
“ “ “ Fifty Cents	753,953		
“ “ “ Twenty-five Cents	154,731		
Daily Average Cash Admissions for August (27 days)	33,655		
“ “ Receipts for August (27 days)	$15,394.78		
Total Cash Admissions for September		2,130,991	928,056.00
“ “ “ Fifty Cents	1,581,233		
“ “ “ Twenty-five Cents	474,683		
“ “ “ Live-Stock, Twenty-five Cents	75,075		
Daily Average Cash Admissions for September (26 days)	81,961		
“ “ Receipts for September (26 days)	$35,694.46		
Total Cash Admissions for October		2,334,530	1,160,811.50
“ “ “ Fifty Cents	2,308,716		
“ “ “ Twenty-five Cents	10,441		
“ “ “ Live-Stock, Twenty-five Cents	15,373		
Daily Average Cash Admissions for October (26 days).	89,789		
“ “ Receipts for October (26 days)	$44,646.60		
Total Cash Admissions for November		918,905	453,674.75
“ “ “ Fifty Cents	895,794		
“ “ “ Twenty-five Cents	23,111		
Daily Average Cash Admissions for November (9 days)	102,100		
“ “ Receipts for November (9 days)	$50,408.30		
Total Cash Admissions from May 10 to November 10 (inclusive)		**8,004,274**	
Total Receipts from Admissions from May 10 to November 10 (inclusive)			**$3,813,724.49**

Daily Average Cash Admissions from May 10 to November 10 (inclusive), 159 days **50,341**

Daily Average Receipts from May 10 to November 10 (inclusive), 159 days **$23,985.69**

MONTHLY REPORT OF TOTAL ADMISSIONS, WITH DAILY AVERAGES.

		Total Admissions.
Total Admissions for May		684,940
Daily Average for May (19 days)	36,050	
Total Admissions for June		1,002,825
Daily Average for June (26 days)	38,570	
Total Admissions for July		906,447
Daily Average for July (26 days)	34,863	
Total Admissions for August		1,175,314
Daily Average for August (27 days)	43,530	
Total Admissions for September		2,439,689
Daily Average for September (26 days)	93,834	
Total Admissions for October		2,663,911
Daily Average for October (26 days)	102,458	
Total Admissions for November		1,037,840
Daily Average for November (9 days)	115,315	
Total Admissions from May 10 to November 10 (inclusive)		9,910,966

Average Daily Total Admissions from May 10 to November 10, inclusive (159 days), 62,333.

MONDAYS' ADMISSIONS AND RECEIPTS FROM ADMISSIONS.

DATE. 1876.			ADMISSIONS.			
			CASH.	FREE, EXHIBITORS, ETC.	TOTAL.	RECEIPTS.
Monday,	May	15	10,896½	4,952	15,848½	$5,448.25
"	"	22	12,402½	8,468	20,870½	6,201.25
"	"	29	16,202	7,265	23,467	8,101.00
"	June	5	27,555	10,544	38,099	13,777.51
"	"	12	21,379½	9,550	30,929½	10,689.75
"	"	19	23,372	9,381	32,753	11,686.10
"	"	26	21,120	11,669	32,789	10,560.00
"	July	3	47,786	12,313	60,099	23,893.00
"	"	10	19,133	10,526	29,659	9,566.50
"	"	17	18,270	10,367	28,637	9,135.00
"	"	24	20,778	10,562	31,340	10,377.00
"	"	31	15,207	10,557	25,764	7,603.50
"	August	7	23,401	10,511	33,912	11,694.25
"	"	14	22,664	10,216	32,880	11,330.00
"	"	21	28,981	10,418	39,399	14,490.50
"	"	28	34,799	10,426	45,225	17,363.00
"	September	4	37,628	11,605	49,233	18,280.75
"	"	11	41,509	11,410	52,919	20,586.75
"	"	18	62,941	11,634	74,575	31,391.00
"	"	25	68,712	12,253	80,965	33,748.25
"	October	2	68,174	12,621	80,795	33,509.75
"	"	9	71,808	12,672	84,480	35,878.00
"	"	16	74,657	12,871	87,528	37,132.00
"	"	23	73,924	12,338	86,262	36,924.50
"	"	30	80,039	12,540	92,579	39,930.50
"	November	6	77,936	12,381	90,317	38,642.00
Total Cash Admissions			1,021,274½			
" Free, Exhibitors, etc., Admissions				280,050		
" Number of Admissions					1,301,324½	
" Receipts from Admissions						$507,940.11

Twenty-six Mondays.

AVERAGES.	Cash	39,280
	Free, Exhibitors, etc	10,771
	Total	50,051
	Receipts	$19,536.16

TUESDAYS' ADMISSIONS AND RECEIPTS FROM ADMISSIONS.

DATE. 1876.	ADMISSIONS.			
	CASH.	FREE, EXHIBITORS, ETC.	TOTAL.	RECEIPTS.
Tuesday, May 16	7,056	6,057	13,113	$3,528.00
" " 23	17,552½	8,125	25,677½	8,776.25
" " 30	41,111½	7,542	48,653½	20,555 85
" June 6	28,354½	10,271	38,625½	14,177.35
" " 13	24,223	9,337	33,560	12,111.50
" " 20	27,204	9,331	36,535	13,602.00
" " 27	20,343	10,223	30,566	10,171.50
" July 4	46,290½	10,204	56,494½	23,145.36
" " 11	20,645	10,513	31,158	10,322 50
" " 18	19,184	10,111	29,295	9,592.00
" " 25	21,914	9,595	31,509	10,957.00
" August 1	22,195	9,644	31,839	11,084.00
" " 8	24,059	9,460	33,519	11,999.50
" " 15	25,346	9,471	34,817	12,657.25
" " 22	32,027	9,672	41,699	15,963.00
" " 29	41,320	10,142	51,462	20,657.50
" September 5	53.955	10,950	64,905	26,041.00
" " 12	63,000	11,328	74.328	30,522.25
" " 19	92,866	11,801	104,667	46,319.75
" " 26	80,944	11,812	92,756	39,790.00
" October 3	80,857	12,558	93,415	39.598.25
" " 10	79,888	12,091	91,979	39.830.75
" " 17	92,938	12,146	105,084	46,087.50
" " 24	88,520	12,237	100,757	44,211.75
" " 31	81,867	12,164	94,031	40,635.00
" November 7	76,053	11,806	87,859	37,602.50
Total Cash Admissions	1,209,713			
" Free, Exhibitors, etc., Admissions		268,591		
" Number of Admissions			1,478,304	
" Receipts from Admissions				$599,939.31

Twenty-six Tuesdays.

AVERAGES.	Cash	46,527
	Free, Exhibitors, etc	10,331
	Total	56,858
	Receipts	$23,074.59

WEDNESDAYS' ADMISSIONS AND RECEIPTS FROM ADMISSIONS.

DATE. 1876.			ADMISSIONS.			
			CASH.	FREE, EXHIBITORS, ETC.	TOTAL.	RECEIPTS.
Wednesday,	May	10	76,172	110,500	186 672	$38,085.95
"	"	17	12,117	6,595	18,712	6,058.50
"	"	24	20,538	9,652	30,190	10,269.00
"	"	31	26,249	8,914	35,163	13,124.50
"	June	7	31,673	10,875	42,548	15,836.50
"	"	14	29,812	9,901	39,713	14,906.00
"	"	21	32,134½	9,765	41,899½	16,067.25
"	"	28	23,590	11,078	34,668	11,795.00
"	July	5	51,825½	11,001	62,826½	25,912.80
"	"	12	20,575	10,311	30,886	10,287.50
"	"	19	18,729	10,019	28,748	9,364.50
"	"	26	22,929	9,986	32,915	11,449.75
"	August	2	24,246	9,604	33,850	12,123.00
"	"	9	29,938	9,638	39,576	14,939.00
"	"	16	28,460	9,499	37,959	14,200.25
"	"	23	39,395	9,796	49,191	19,619.25
"	"	30	43,607	10,130	53,737	21,757.75
"	September	6	59,440	10,825	70,265	28,208.75
"	"	13	78,955	11,772	90,727	37,864.25
"	"	20	101,498	11,861	113,359	50,500.00
"	"	27	93,030	13,229	106,259	45,671.00
"	October	4	90,886	12,203	103,089	44,615.75
"	"	11	94,331	12,664	106,995	46,945.00
"	"	18	124,777	14,097	138,874	61,964.25
"	"	25	106,986	12,303	119,289	53,331.00
"	November	1	107,715	12,763	120,478	53,573.25
"	"	8	90,588	12,539	103,127	44,937.25
Total Cash Admissions			1,480,196			
" Free, Exhibitors, etc., Admissions				391,520		
" Number of Admissions					1,871,716	
" Receipts from Admissions						$733,407.00

Twenty-seven Wednesdays.

AVERAGES.	Cash	54,822
	Free, Exhibitors, etc	14,500
	Total	69,322
	Receipts	$27,163.23

THURSDAYS' ADMISSIONS AND RECEIPTS FROM ADMISSIONS.

DATE. 1876.			ADMISSIONS.			
			CASH.	FREE, EXHIBITORS, ETC.	TOTAL.	RECEIPTS.
Thursday,	May	11	14,722	4,275	18,997	$7,361.25
"	"	18	11,054	6,765	17,819	5,527.00
"	"	25	19,821½	7,335	27,156½	9,910.75
"	June	1	23,200	7,676	30,876	11,600.00
"	"	8	31,634½	9,446	41,080½	15,817.25
"	"	15	31,937½	9,642	41,579½	15,968.75
"	"	22	39,386½	9,905	49,291½	19,693.25
"	"	29	27,034½	11,057	38,091½	13,517.25
"	July	6	46,088	11,522	57,610	23,044.06
"	"	13	18,352	10,066	28,418	9.176.01
"	"	20	16,681	9,255	25,936	8,340.50
"	"	27	24,846½	9,979	34,825½	12,390.75
"	August	3	27,940	9,793	37,733	13.901.75
"	"	10	26,154	9,243	35,397	13,056.50
"	"	17	27.197	9,269	36,466	13,557.00
"	"	24	56,325	10,727	67,052	28,063.75
"	"	31	45,800	10,342	56,142	22,644.25
"	September	7	64,059	10,985	75,044	30,853.75
"	"	14	85.795	12,073	97,868	41,193.00
"	"	21	122,003	12,585	134,588	59,986.00
"	"	28	257,169	17,750	274,919	118,673.75
"	October	5	89,060	11,886	100,946	44,496.00
"	"	12	101,541	13,881	115,422	50,536.00
"	"	19	161,355	15,052	176,407	80,367.50
"	"	26	122,300	13,361	135,661	61,029.50
"	November	2	115,298	12,724	128,022	57,373.50
"	"	9	176,924	16,154	193,078	86,772.75
Total Cash Admissions			1,783,678			
" Free, Exhibitors, etc., Admissions				292,748		
" Number of Admissions					2,076,426	
" Receipts from Admissions						$874,851.82

Twenty-seven Thursdays.

AVERAGES.	Cash	66,062
	Free, Exhibitors, etc	10,843
	Total	76,905
	Receipts	$32,401.02

FRIDAYS' ADMISSIONS AND RECEIPTS FROM ADMISSIONS.

DATE. 1876.			ADMISSIONS.			
			CASH.	FREE, EXHIBITORS, ETC.	TOTAL.	RECEIPTS.
Friday,	May	12	10,252	2,468	12,720	$5,126.00
"	"	19	16,100	7,527	23,627	8,050.05
"	"	26	16,792	7,327	24,119	8,396.00
"	June	2	26,637	9,167	35,804	13,318.60
"	"	9	24,693	9,609	34,302	12,346.50
"	"	16	25,903	9,467	35,370	12,951.50
"	"	23	27,693	9,612	37,305	13,846.55
"	"	30	24,541½	11,623	36,164½	12,270.80
"	July	7	33,746	11,053	44,799	16,873.00
"	"	14	18,333½	10,254	28,587½	9,166.75
"	"	21	17,714	9,678	27,392	8,857.00
"	"	28	18,924	10,057	28,981	9,462.00
"	August	4	25,015	9,776	34,791	12,507.50
"	"	11	25,893	9,615	35,508	12,943.25
"	"	18	25,789	9,518	35,307	12,863.25
"	"	25	32,298	9,813	42,111	16,149.00
"	September	1	34,729	10,379	45,108	17,227.75
"	"	8	58,908	11,340	70,248	27,378.00
"	"	15	64,341	11,566	75,907	32,038.50
"	"	22	89,433	11,918	101,351	43,846.50
"	"	29	74,973	11,821	86,794	36,659.25
"	October	6	76,167	12,102	88,269	38,053.25
"	"	13	81,926	12,338	94,264	40,607.75
"	"	20	94,135	13,530	107,665	47,043.75
"	"	27	95,563	12,517	108,080	47,485.00
"	November	3	83,894	12,297	96,191	41,394.50
"	"	10	106,367	15,354	121,721	52,067.00
Total Cash Admissions			1,230,760			
" Free, Exhibitors, etc., Admissions				281,726		
" Number of Admissions					1,512,486	
" Receipts from Admissions						$608,929.00

Twenty-seven Fridays.

AVERAGES.		
	Cash	45,584
	Free, Exhibitors, etc	10,434
	Total	56,018
	Receipts	$22,552.93

SATURDAYS' ADMISSIONS AND RECEIPTS FROM ADMISSIONS.

DATE. 1876.	ADMISSIONS.			
	CASH.	FREE, EXHIBITORS, ETC.	TOTAL.	RECEIPTS.
Saturday, May 13	11,658½	5,204	16,862½	$5,829.25
" " 20	18,191½	7,925	26,116½	9,095.75
" " 27	20,091½	7,619	27,710½	10,045.75
" June 3	22,292	8,449	30,741	11,146.00
" " 10	28,948	9,803	38,751	14,474.00
" " 17	25,902	9,482	35,384	12,951.00
" " 24	25,103	9,648	34,751	12,551.50
" July 1	26,410	11,419	37,829	13,205.00
" " 8	23,207	10,817	34,024	11,603.50
" " 15	16,057	10,027	26,084	8,028.50
" " 22	16,941	9,795	26,736	8,470.50
" " 29	15,952	9,942	25,894	7,975.25
" August 5	22,304	9,996	32,300	11,152.00
" " 12	22,314	9,849	32,163	11,138.50
" " 19	54,045	9,604	63,649	13,511.25
" " 26	97,172	10,458	107,630	24,293.00
" September 2	59,412	10,911	70,323	14,853.00
" " 9	104,314	12,023	116,337	26,078.50
" " 16	92,080	11,865	103,945	23,020.00
" " 23	84,627	11,205	95,832	21,156.75
" " 30	104,670	11,797	116,467	26,167.50
" October 7	72,894	12,261	85,155	36,367.50
" " 14	78,278	12,593	90,871	38,899.75
" " 21	72,929	12,113	85,042	36,259.25
" " 28	78,730	12,242	90,972	39,072.25
" November 4	84,130	12,917	97,047	41,312.00
Total Cash Admissions	1,278,652½			
" Free, Exhibitors, etc., Admissions		269,964		
" Number of Admissions			1,548,616½	
" Receipts from Admissions				$488,657.25

Twenty-six Saturdays.

AVERAGES.		
	Cash	49,179
	Free, Exhibitors, etc	10,383
	Total	59,562
	Receipts	$18,794.51

SUMMARY OF ADMISSIONS AND RECEIPTS ON SEPARATE DAYS OF THE WEEK.

DATE. 1876.	No.	ADMISSIONS.			
		CASH.	FREE, EXHIBITORS, ETC.	TOTAL.	RECEIPTS.
Mondays	26	1,021,274½	280,050	1,301,324½	$507,940.11
Tuesdays	26	1,209,713	268,591	1,478,304	599,939.31
Wednesdays	27	1,480,196	391,520	1,871,716	733,407.00
Thursdays	27	1,783,678	292,748	2,076,426	874,851.82
Fridays	27	1,230,760	281,726	1,512,486	608,929.00
Saturdays	26	1,278,652½	269,964	1,548,616½	488,657.25
	159				
Workmen at Gate "A" before 7 A.M. in month of May			71,445	71,445	
Workmen at Gate "A" before 7 A.M. in month of June			50,648	50,648	
Total Cash Admissions		8,004,274			
" Free, Exhibitors, etc			1,906,692		
" Number of Admissions				9,910,966	
" Receipts from Admissions					$3,813,724.49

One Hundred and Fifty-nine Days.

AVERAGES.	Cash Admissions	50,341
	Free, Exhibitors, etc	11,992
	Total Admissions	62,333
	Receipts	$23,985.69

CASH, FREE, EXHIBITORS, ATTENDANTS, ETC., ADMISSIONS, WITH DAILY AVERAGES.

MONTHS.	MAIN EXHIBITION.							
	MAY.		JUNE.		JULY.		AUGUST.	
	Admissions.	Daily Average.	Admissions.	Daily Average.	Admissions.	Daily Average.	Admissions.	Daily Average.
Number of Days.	19		26		26		27	
Cash	378,980	19,946	695,666	26,756	636,518	24,481	908,684	33,655
Free	10,344	544	17,622	678	13,955	537	10,534	390
Exhibitors, Attendants, etc	295,616	15,559	289,537	11,136	255,974	9,845	256,096	9,485
Totals	684,940	36,049	1,002,825	38,570	906,447	34,863	1,175,314	43,530

MONTHS.	MAIN AND LIVE-STOCK EXHIBITIONS.				MAIN EXHIBITION.			
	SEPTEMBER.		OCTOBER.		NOVEMBER.		FROM MAY 10 TO NOV. 10.	
	Admissions.	Daily Average.	Admissions.	Daily Average.	Admissions.	Daily Average.	Admissions.	Daily Average.
Number of Days.	26		26		9		159	
Cash	2,130,991	81,961	2,334,530	89,789	918,905	102,100	8,004,274	50,341
Free	15,514	597	17,730	682	5,376	597	91,075	573
Exhibitors, Attendants, etc	293,184	11,276	311,651	11,987	113,559	12,618	1,815,617	11,419
Totals	2,439,689	93,834	2,663,911	102,458	1,037,840	115,315	9,910,966	62,333

THE LARGEST AND THE SMALLEST DAY OF EACH MONTH.

LARGEST DAY.

MONTH.	DAY.	ADMISSIONS.			RECEIPTS
		CASH.	FREE, EXHIBITORS, ETC.	TOTAL.	
May	Wednesday, 10	76,172	110,500	186,672	$38,085.95
June	Thursday, 22	39,386½	9,905	49,291½	19,693.25
July	Wednesday, 5	51,825½	11,001	62,826½	25,912.80
August	Saturday, 26	97,172	10,458	107,630	24,293.00
September	Thursday, 28.	257,169	17,750	274,919	118,673.75
October	" 19	161,355	15,052	176,407	80,367.50
November	" 9	176,924	16,154	193,078	86,772.75

SMALLEST DAY.

MONTH.	DAY.	ADMISSIONS.			RECEIPTS.
		CASH.	FREE, EXHIBITORS, ETC.	TOTAL.	
May	Friday, 12	10,252	2,468	12,720	$5,126.00
June	Tuesday, 27	20,343	10,223	30,566	10,171.50
July	Monday, 31	15,207	10,557	25,764	7,603.50
August	Tuesday, 1	22,195	9,644	31,839	11,084.00
September	Friday, 1	34,729	10,379	45,108	17,227.75
October	Monday, 2	68,174	12,621	80,795	33,509.75
November	Tuesday, 7	76,053	11,806	87,859	37,602.50

ADMISSIONS AND RECEIPTS ON THE DIFFERENT STATE DAYS.

STATE.	DATE.	ADMISSIONS.			RECEIPTS.
		CASH.	FREE, EXHIBITORS, ETC.	TOTAL.	
New Jersey....................	Thursday, August 24..	56,325	10,727	67,052	$28,063.75
Connecticut....................	" Sept. 7..	64,059	10,985	75,044	30,853.75
Massachusetts	" " 14..	85,795	12,073	97,868	41,193.00
New York......................	" " 21..	122,003	12,585	134,588	59,986.00
Pennsylvania..................	" " 28..	257,169	17,750	274,919	118,673.75
Rhode Island..................	" October 5..	89,060	11,886	100,946	44,496.00
New Hampshire.............	" " 12..	101,541	13,881	115,422	50,536.00
Delaware and Maryland.	" " 19..	161,355	15,052	176,407	80,367.50
Ohio.............................	" " 26..	122,300	13,361	135,661	61,029.50
Vermont........................	Friday, " 27..	95,563	12,517	108,080	47,485.00

FREE ADMISSIONS, WITH THE AVERAGE NUMBER OF TIMES EACH COMPLIMENTARY TICKET WAS USED.

NUMBER OF COMPLIMENTARY TICKETS ISSUED.	NUMBER OF COMPLIMENTARY ADMISSIONS.	AVERAGE NUMBER OF TIMES EACH TICKET WAS USED.	TERM OF THE EXHIBITION.	
			NUMBER OF DAYS.	PROPORTION OF WHICH EACH TICKET WAS USED.
2,960	91,075	31	159	1-5

DAILY REPORT OF THE PERCENTAGES OF CASH ADMISSIONS BEFORE AND AFTER 1 O'CLOCK, WITH TEMPERATURE AND WEATHER, FOR THE MONTH OF MAY.

DATE. 1876.	Admissions before 1 o'clock.	Admissions after 1 o'clock.	Total.	Thermometer.					Mean Barometer.	Prevailing Winds.	Rain-Fall. Inches.	Weather.
				7 A.M.	12.07 P.M.	2 P.M.	4.42 P.M.	Mean.				
Wednesday, 10	60,207	15,965	76,172	56	64	65	62	61¾	29.84	S. W.	.18	Rain.
Thursday, 11	12,236	2,486	14,722	53	61	63	65	60½	30.14	N. W.	.00	Fair.
Friday, 12	8,602	1,650	10,252	57	70	69	62	64½	29.99	S. W.	.11	Cloudy.
Saturday, 13	8,949½	2,709	11,658½	52	60	61	60	58¼	30.13	N.	.00	Fair.
Monday, 15	9,000½	1,896	10,896½	56	66	71	74	66¾	30.16	S. W.	.21	Cloudy.
Tuesday, 16	5,365	1,691	7,056	50	51	52	52	51¼	30.40	E.	.15	Rain.
Wednesday, 17	9,659	2,458	12,117	50	55	55	55	53¾	30.38	S.	.00	Cloudy.
Thursday, 18	8,463	2,591	11,054	53	58	61	63	58¾	30.09	S. W.	.00	"
Friday, 19	12,878	3,222	16,100	62	72	74	75	70¾	30.07	W.	.00	Fair.
Saturday, 20	14,408½	3,783	18,191½	59	73	76	76	71	30.10	E.	.00	Clear.
Monday, 22	9,592½	2,810	12,402½	70	77	80	80	76¾	29.77	S. W.	.97	Rain.
Tuesday, 23	13,824½	3,728	17,552½	51	55	59	61	56½	30.18	N.	.00	Clear.
Wednesday, 24	16,820	3,718	20,538	50	62	67	69	62	30.22	W.	.00	"
Thursday, 25	16,530½	3,291	19,821½	58	75	75	77	71¼	30.06	W.	.00	Fair.
Friday, 26	13,722	3,070	16,792	57	67	68	72	66	30.11	E.	.00	Clear.
Saturday, 27	16,205½	3,886	20,091½	56	76	78	78	72	30.04	S. W.	.00	"
Monday, 29	13,401	2,801	16,202	65	79	84	75	75¾	29.83	W.	.24	Rain.
Tuesday, 30	34,268	6,843½	41,111½	63	65	66	63	64¼	30.10	E.	.00	Fair.
Wednesday, 31	22,347	3,902	26,249	54	66	68	69	64¼	30.24	S. E.	.00	Clear.
	306,479½	72,500½	378,980									

Percentage of Admissions before 1 o'clock.................................. 81

Mean Temperature for the Month.. 64½

DAILY REPORT OF THE PERCENTAGES OF CASH ADMISSIONS BEFORE AND AFTER 1 O'CLOCK, WITH TEMPERATURE AND WEATHER, FOR THE MONTH OF JUNE.

DATE. 1876.	ADMISSIONS BEFORE 1 O'CLOCK.	ADMISSIONS AFTER 1 O'CLOCK.	TOTAL.	THERMOMETER.					MEAN BAROMETER.	PREVAILING WINDS.	RAIN-FALL. INCHES.	WEATHER.
				7 A.M.	12.07 P.M.	2 P.M.	4.42 P.M.	MEAN.				
Thursday, 1	16,605	6,595	23,200	54	69	72	73	67	30.04	S.	.00	Clear.
Friday, 2	23,109	3,528	26,637	64	76	81	83	76	29.83	W.	.00	"
Saturday, 3	19,071	3,221	22,292	69	84	87	87	81¾	29.78	S.W.	.11	"
Monday, 5	23,097	4,458	27,555	64	70	72	72	69½	29.90	N.W.	.03	Fair.
Tuesday, 6	23,971½	4,383	28,354½	62	66	68	69	66¼	30.02	N.	.00	Clear.
Wednesday, 7	27,464	4,209	31,673	63	74	75	77	72½	30.14	W.	.00	"
Thursday, 8	27,448½	4,186	31,634½	66	81	84	84	78¾	30.17	S.W.	.00	Fair.
Friday, 9	21,111	3,582	24,693	70	81	83	84	79½	30.13	S.W.	.00	Clear.
Saturday, 10	23,060	5,888	28,948	71	83	85	87	81½	30.12	S.W.	.00	"
Monday, 12	18,152½	3,227	21,379½	71	74	74	74	73¼	30.18	E.	.00	Cloudy.
Tuesday, 13	20,905	3.318	24,223	69	75	72	74	72½	30.16	S.	.55	Rain.
Wednesday, 14	26,204	3,608	29,812	68	80	82	82	78	30.14	S.	.00	Fair.
Thursday, 15	27,474½	4,463	31,937½	68	78	82	79	76¼	30.18	S.	.00	"
Friday, 16	22,474	3,429	25,903	64	73	78	79	73½	30.17	S.	.00	Cloudy.
Saturday, 17	21,566	4,336	25,902	72	80	79	78	77¼	30.06	S.	.00	Fair.
Monday, 19	20,477	2,895	23,372	71	82	84	84	80¼	29.99	S.W.	.05	"
Tuesday, 20	23,600	3,604	27,204	71	76	79	80	76½	29.98	S.W.	.14	"
Wednesday, 21	28,367½	3,767	32,134½	67	75	76	74	73	29.99	N.W.	.03	"
Thursday, 22	35,008½	4,378	39,386½	67	75	76	75	73¼	30.01	N.W.	.00	"
Friday, 23	24,524	3,169	27,693	69	78	80	80	76¼	29.93	N.W.	.00	"
Saturday, 24	20,566	4,537	25,103	72	84	86	86	82	29.77	W.	.00	Clear.
Monday, 26	18,441	2,679	21,120	77	90	91	92	87½	29.78	N.W.	.00	"
Tuesday, 27	17,985	2,358	20,343	78	90	92	77	89¼	29.84	W.	.47	"
Wednesday, 28	21,043	2,547	23,590	80	86	88	89	85¾	29.98	W.	.16	Fair.
Thursday, 29	23,517½	3,517	27,034½	74	82	85	87	82	29.99	S.W.	.00	"
Friday, 30	21,541	3,000½	24,541½	75	85	86	88	83½	30.01	N.W.	.00	"
	596,783½	98,882½	695,666									

Percentage of Admissions before 1 o'clock.................................. 86

Mean Temperature for the Month............. .... 77½

DAILY REPORT OF THE PERCENTAGES OF CASH ADMISSIONS BEFORE AND AFTER 1 O'CLOCK, WITH TEMPERATURE AND WEATHER, FOR THE MONTH OF JULY.

DATE. 1876.		Admissions before 1 o'clock.	Admissions after 1 o'clock.	Total.	Thermometer.					Mean Barometer.	Prevailing Winds.	Rain-fall. Inches.	Weather.
					7 A.M.	12.07 P.M.	2 P.M.	4.42 P.M.	Mean.				
Saturday,	1	21,660	4,750	26,410	74	83	87	87	82¾	30.03	S. W.	.00	Fair.
Monday,	3	42,287	5,499	47,786	79	92	88	89	87	29.97	W.	.00	Clear.
Tuesday,	4	35,687½	10,603	46,290½	78	89	90	91	87	29.99	S. W.	.00	Fair.
Wednesday,	5	46,067	5,758½	51,825½	79	88	89	90	86½	29.93	S. W.	.00	"
Thursday,	6	40,567	5,521	46,088	75	77	85	85	80½	30.02	N. W.	.00	Clear.
Friday,	7	29.718½	4,027½	33,746	74	85	88	85	83	30.06	E.	.00	Fair.
Saturday,	8	20,396	2,811	23,207	81	92	95	97	91¼	29.92	N.	.00	"
Monday,	10	17,363	1,770	19,133	74	91	95	81	85¼	29.98	S.	1.56	Rain.
Tuesday,	11	18,773	1,872	20,645	79	88	91	92	87½	30.01	N. W.	.21	"
Wednesday,	12	18,566	2,009	20,575	77	86	91	92	86½	30.01	N. W.	.00	Fair.
Thursday,	13	16,591	1,761	18,352	81	90	82	80	83¼	29.97	N. W.	.06	Cloudy.
Friday,	14	16,322½	2,011	18,333½	76	86	86	87	83¾	29.88	N.	.00	"
Saturday,	15	14,101	1,956	16,057	80	89	91	90	87½	29.91	E.	.00	Fair.
Monday,	17	16,310	1,960	18,270	75	86	87	87	83¾	30.20	W.	.00	Clear.
Tuesday,	18	17,125	2,059	19,184	75	86	88	88	84¼	30.06	W.	.00	Fair.
Wednesday,	19	17,023	1,706	18,729	77	87	90	90	86	30.01	S.	.07	"
Thursday,	20	14,909	1,772	16,681	80	91	93	94	89½	29.88	S. W.	1.05	Rain.
Friday,	21	15,560	2,154	17,714	76	81	82	84	80¾	30.01	N. E.	.04	Fair.
Saturday,	22	13,930	3,011	16,941	71	80	82	80	78¼	30.03	E.	.00	Clear.
Monday,	24	17,933	2,845	20,778	63	72	73	73	70¼	29.94	W.	.00	Fair.
Tuesday,	25	19,468	2,446	21,914	65	74	76	65	70	30.05	W.	.08	Clear.
Wednesday,	26	20,075	2,854	22,929	65	73	75	76	72¼	30.17	N.	.00	Fair.
Thursday,	27	21,761½	3,085	24,846½	66	77	79	80	75½	30.18	S. W.	.00	"
Friday,	28	16,815	2,109	18,924	70	83	85	83	80¼	29.98	S. W.	.08	"
Saturday,	29	13,434	2,518	15,952	72	79	81	84	79	29.95	N.	.00	"
Monday,	31	13,216	1,991	15,207	64	66	67	67	66	29.90	E.	.01	Cloudy.
		555,659	80,859	636,518									

Percentage of Admissions before 1 o'clock.................................. 87

Mean Temperature for the Month.. 81¼

DAILY REPORT OF THE PERCENTAGES OF CASH ADMISSIONS BEFORE AND AFTER 1 O'CLOCK, WITH TEMPERATURE AND WEATHER, FOR THE MONTH OF AUGUST.

DATE. 1876.	ADMISSIONS BEFORE 1 O'CLOCK.	ADMISSIONS AFTER 1 O'CLOCK.	TOTAL.	THERMOMETER.					MEAN BAROMETER.	PREVAILING WINDS.	RAIN-FALL. INCHES.	WEATHER.
				7 A.M.	12.07 P.M.	2 P.M.	4.42 P.M.	MEAN.				
Tuesday, 1	19,188	3,007	22,195	66	74	76	75	72¾	30.09	E.	.00	Cloudy.
Wednesday, 2	21,512	2,734	24,246	67	72	72	72	70¾	30.20	E.	.00	"
Thursday, 3	24,569	3,371	27,940	66	70	71	71	69½	30.22	E.	.05	Rain.
Friday, 4	22,311	2,704	25,015	68	75	78	78	74¾	30.16	F.	.04	Cloudy.
Saturday, 5	19,265	3,039	22,304	70	80	81	82	78¼	30.17	W.	.00	"
Monday, 7	21,171	2,230	23,401	74	88	90	86	84½	30.09	W.	.00	Clear.
Tuesday, 8	21,371	2,688	24,059	77	85	87	85	83½	30.04	N. E.	.00	Fair.
Wednesday, 9	26,847	3,091	29,938	74	84	87	87	83	30.10	S.	.00	Clear.
Thursday, 10	23,746	2,408	26,154	69	83	86	86	81	30.19	S.	.00	Fair.
Friday, 11	23,053	2,840	25,893	70	82	86	85	80¾	30.19	S. E.	.00	Clear.
Saturday, 12	18,320	3,994	22,314	69	83	79	78	77¼	30.18	S.	.00	Fair.
Monday, 14	20,060	2,604	22,664	72	82	83	83	80	30.00	E.	.02	"
Tuesday, 15	22,569	2,777	25,346	75	84	87	86	83	29.86	N. W.	.00	Clear.
Wednesday, 16	25,232	3,228	28,460	76	83	86	87	83	29.98	W.	.00	"
Thursday, 17	23,894	3,303	27,197	73	79	79	82	78¼	29.96	E.	.48	Rain.
Friday, 18	22,761	3,028	25,789	68	77	79	77	75¼	29.94	E.	.00	Cloudy.
Saturday, 19	46,406	7,639	54,045	69	76	78	74	74¼	29.82	S. E.	.16	Rain.
Monday, 21	25,005	3,976	28,981	59	68	71	73	67¾	30.13	N.	.00	Clear.
Tuesday, 22	27,908	4,119	32,027	63	73	77	78	72¾	30.04	N. W.	.00	Fair.
Wednesday, 23	35,036	4,359	39,395	68	77	80	81	76½	30.07	S.	.00	"
Thursday, 24	51,242	5,083	56,325	66	80	83	80	77¼	30.13	S. W.	.00	Clear.
Friday, 25	29,232	2,966	32,298	71	81	83	83	79½	29.98	W.	.00	Fair.
Saturday, 26	87,979	9,193	97,172	70	74	78	78	75	29.98	N.	.20	Clear.
Monday, 28	30,962	3,837	34,799	64	75	77	77	73¼	30.09	N. W.	.00	"
Tuesday, 29	36,950	4,370	41,320	66	77	80	79	75½	30.06	W.	.00	Fair.
Wednesday, 30	39,450	4,157	43,607	70	81	83	84	79½	29.94	W.	.00	"
Thursday, 31	40,986	4,814	45,800	71	78	83	83	78¾	29.92	W.	.00	"
	807,125	101,559	908,684									

Percentage of Admissions before 1 o'clock.............................. 89
Mean Temperature for the Month.. 77¼

DAILY REPORT OF THE PERCENTAGES OF CASH ADMISSIONS BEFORE AND AFTER 1 O'CLOCK, WITH TEMPERATURE AND WEATHER, FOR THE MONTH OF SEPTEMBER.

DATE. 1876.		Admissions before 1 o'clock.	Admissions after 1 o'clock.	Total.	Thermometer.					Mean Barometer.	Prevailing Winds.	Rain-fall. Inches.	Weather.
					7 A.M.	12.07 P.M.	2 P.M.	4.42 P.M.	Mean.				
Friday,	1	31,603	3,126	34,729	72	85	86	82	81¼	29.80	S.W.	.00	Fair.
Saturday,	2	53,418	5,994	59,412	69	73	74	73	72¼	29.89	N.	.37	Rain.
Monday,	4	33,316	4,312	37,628	62	76	78	79	73¾	29.99	W.	.01	Fair.
Tuesday,	5	48,340	5,615	53,955	59	66	67	68	65	30.09	N.E.	.00	Clear.
Wednesday,	6	53,716	5,724	59,440	56	67	70	71	66	30.12	N.W.	.00	Fair.
Thursday,	7	58,590	5,469	64,059	60	62	64	65	62¾	30.01	S.E.	.37	Rain.
Friday,	8	53,606	5,302	58,908	65	76	80	80	75¼	29.85	N.W.	.21	Cloudy.
Saturday,	9	96,589	7,725	104,314	65	73	73	74	71¼	30.01	N.E.	.00	Fair.
Monday,	11	36,865	4,644	41,509	56	60	61	61	59½	29.91	E.	.61	Rain.
Tuesday,	12	55,181	7,819	63,000	59	65	66	64	63½	30.03	E.	.00	Cloudy.
Wednesday,	13	72,763	6,192	78,955	60	71	72	70	68¼	30.18	S.	.00	Fair.
Thursday,	14	77,824	7,971	85,795	63	73	74	73	70¾	30.06	S.	.32	"
Friday,	15	58,857	5,484	64,341	63	70	73	73	69¾	29.99	N.W.	.33	Rain.
Saturday,	16	81,659	10,421	92,080	60	65	65	64	63½	30.23	E.	.01	Cloudy.
Monday,	18	57,506	5,435	62,941	65	72	73	70	70	29.78	N.W.	.00	Fair.
Tuesday,	19	84,888	7,978	92,866	62	71	73	73	69¾	29.80	N.W.	.00	"
Wednesday,	20	91,151	10,347	101,498	61	70	71	70	68	29.95	N.E.	.00	Cloudy.
Thursday,	21	110,800	11,203	122,003	61	66	68	65	65	30.19	E.	.00	"
Friday,	22	81,784	7,649	89,433	58	60	60	60	59½	30.17	E.	.00	"
Saturday,	23	78,708	5,919	84,627	61	64	64	64	63¼	29.96	E.	1.42	Rain.
Monday,	25	60,370	8,342	68,712	60	66	68	69	65¾	29.94	E.	.43	Fair.
Tuesday,	26	72,142	8,802	80,944	60	65	65	66	64	29.76	N.W.	.32	Cloudy.
Wednesday,	27	83,511	9,519	93,030	49	59	61	60	57¼	29.92	N.W.	.00	Clear.
Thursday,	28	199,979	57,190	257,169	49	62	64	63	59½	30.13	S.W.	.00	"
Friday,	29	66,645	8,328	74,973	54	68	69	68	64¾	29.90	S.W.	.00	Fair.
Saturday,	30	95,344	9,326	104,670	57	57	56	55	56¼	29.95	W.	.26	Rain.
		1,895,155	235,836	2,130,991									

Percentage of Admissions before 1 o'clock.............................. 89

Mean Temperature for the Month.. 66⅛

DAILY REPORT OF THE PERCENTAGES OF CASH ADMISSIONS BEFORE AND AFTER 1 O'CLOCK, WITH TEMPERATURE AND WEATHER, FOR THE MONTH OF OCTOBER.

DATE. 1876.		Admissions before 1 o'clock.	Admissions after 1 o'clock.	Total.	Thermometer.					Mean Barometer.	Prevailing Winds.	Rain-fall. Inches.	Weather.
					7 A.M.	12.07 P.M.	2 P.M.	4.42 P.M.	Mean.				
Monday,	2	60,548	7,626	68,174	49	58	60	59	56½	29.96	N. W.	.00	Clear.
Tuesday,	3	71,523	9,334	80,857	47	61	64	66	59½	29.90	W.	.00	"
Wednesday,	4	81,967	8,919	90,886	53	59	60	57	57¼	29.98	N.	.00	Fair.
Thursday,	5	83,540	5,520	89,060	49	51	53	53	51½	29.98	E.	.00	Cloudy.
Friday,	6	71,515	4,652	76,167	58	70	75	75	69½	29.66	W.	.17	"
Saturday,	7	66,507	6,387	72,894	51	56	57	54	54½	29.94	N. W.	.00	Fair.
Monday,	9	66,962	4,846	71,808	41	49	52	52	48½	30.20	S. W.	.00	"
Tuesday,	10	73,855	6,033	79,888	47	60	65	64	59	29.78	S. W.	.00	"
Wednesday,	11	87,754	6,577	94,331	44	49	49	49	47¾	30.20	N.	.00	Clear.
Thursday,	12	93,175	8,366	101,541	37	50	51	51	47¼	30.34	W.	.00	"
Friday,	13	75,401	6,525	81,926	43	57	60	60	55	30.13	W.	.00	"
Saturday,	14	71,898	6,380	78,278	45	64	67	67	60¾	29.84	S. W.	.00	Fair.
Monday,	16	68,431	6,226	74,657	31	45	49	50	43¾	30.06	W.	.00	Clear.
Tuesday,	17	84,063	8,875	92,938	43	56	56	57	53	29.97	N.	.00	Fair.
Wednesday,	18	106,944	17,833	124,777	40	51	54	57	50½	30.17	N. W.	.00	Clear.
Thursday,	19	145,346	16,009	161,355	43	59	62	61	56¼	30.17	S. W.	.00	"
Friday,	20	88,714	5,421	94,135	47	55	58	60	55	29.98	E.	.00	Cloudy.
Saturday,	21	67,211	5,718	72,929	58	61	64	63	61½	29.86	E.	.06	Rain.
Monday,	23	68,424	5,500	73.924	56	61	67	67	62¾	29.68	S.	.02	Cloudy.
Tuesday,	24	82,659	5,861	88,520	55	59	62	62	59½	29.67	N. W.	.45	Clear.
Wednesday,	25	99,604	7,382	106,986	46	48	49	50	48¼	29.86	N. W.	.00	Fair.
Thursday,	26	112,686	9,614	122,300	41	47	49	48	46¼	30.06	N. W.	.00	"
Friday,	27	89,203	6,360	95.563	41	45	48	48	45½	30.34	N.	.00	"
Saturday,	28	72,754	5,976	78,730	41	43	46	43	43¼	30.16	E.	.12	Rain.
Monday,	30	74,589	5,450	80,039	41	49	56	55	50¼	30.29	E.	.00	Fair.
Tuesday,	31	74,428	7.439	81,867	49	54	55	54	53	30.20	W.	.00	Cloudy.
		2,139,701	194,829	2,334,530									

Percentage of Admissions before 1 o'clock.............................. 92

Mean Temperature for the Month.. 53¾

DAILY REPORT OF THE PERCENTAGES OF CASH ADMISSIONS BEFORE AND AFTER 1 O'CLOCK, WITH TEMPERATURE AND WEATHER, FOR THE MONTH OF NOVEMBER.

DATE. 1876.	ADMISSIONS BEFORE 1 O'CLOCK.	ADMISSIONS AFTER 1 O'CLOCK.	TOTAL.	THERMOMETER.					MEAN BAROMETER.	PREVAILING WINDS.	RAIN-FALL. INCHES.	WEATHER..
				7 A.M.	12.07 P.M.	2 P.M.	4.42 P.M.	MEAN.				
Wednesday, 1	99,520	8,195	107,715	50	65	71	70	64	30.03	W.	.00	Clear.
Thursday, 2	106,340	8,958	115,298	55	70	77	72	68½	29.74	W.	.00	Fair.
Friday, 3	76,070	7,824	83,894	60	56	57	56	57¼	29.88	N. W.	.22	Rain.
Saturday, 4	74,609	9,521	84,130	45	52	53	53	50	30.25	N.	.00	Clear.
Monday, 6	71,496	6,440	77,936	39	51	54	52	49	30.16	S. E.	.18	Cloudy.
Tuesday, 7	68,023	8,030	76,053	52	53	52	51	52	29.83	N. E.	1.21	Rain.
Wednesday, 8	80,719	9,869	90,588	42	48	50	50	47½	29.80	N.	.00	Cloudy.
Thursday, 9	133,124	43,800	176,924	42	50	51	51	48½	29.97	N. E.	.00	Clear.
Friday, 10	92,164	14,203	106,367	41	41	40	40	40½	29.96	N.	.10	Rain.
	802,065	116,840	918,905									

Percentage of Admissions before 1 o'clock.................................. 87
Mean Temperature for the Month.. 53

SUMMARY OF CASH ADMISSIONS BEFORE AND AFTER 1 O'CLOCK, FROM MAY 10 TO NOV. 10.

DATE. 1876.	ADMISSIONS BEFORE 1 O'CLOCK.	ADMISSIONS AFTER 1 O'CLOCK.	TOTAL.	MEAN TEMPERATURE.
May	306,479½	72,500½	378,980	64½
June	596,783½	98,882½	695,666	77½
July	555,659	80,859	636,518	81¾
August	807,125	101,559	908,684	77¼
September	1,895,155	235,836	2,130,991	66½
October	2,139,701	194,829	2,334,530	53¾
November	802,065	116,840	918,905	53
	7,102,968	901,306	8,004,274	

Percentage of Admissions before 1 o'clock.. 89
Mean Temperature from May 10 to November 10.................................... 67¾
Warmest Day during the Exhibition, July 8; Mean Temperature, 91¼°.
Coldest Day during the Exhibition, November 10; Mean Temperature, 40½°.

REPORT OF ADMISSIONS OF SCHOOLS.

1876.		Name and Description of School.	Locality.	Number.	REMARKS.
July	24	Public School	Philadelphia, Pa	48	
"	26	Girard College	"	59	
"	27	Philadelphia Orphan Asylum	Haddington, Phil., Pa.	39	
"	27	Jewish Foster Home	Philadelphia, Pa	34	
"	27	Girard College	"	57	
"	29	Mrs. Parker's School	"	3	
August	1	House of Refuge	"	54	
"	3	Northern Home for Friendless Children	"	220	
"	3	House of Refuge	"	53	
"	7	John Sheddon Public School	"	25	
"	8	Wyoming Public School	"	17	
"	8	Foster Home Association	"	28	
"	8	Miami Valley College	Springfield, Ohio	6	
"	8	Lutheran Orphans' Home	Germantown, Phil., Pa.	69	
"	9	Jewish Foster Home	Philadelphia, Pa	33	
"	9	S. Burkhardt Private School	"	45	
"	9	Polytechnic Institute	Camden, N. J	18	
"	9	29th Section Public School	Philadelphia, Pa	24	
"	10	Newton Grammar School	"	14	
"	10	Western Provident Society and Children's Home	Philadelphia, Pa	49	
"	10	Teachers' Institute	Ft. Washington, N. Y.	9	
"	10	Monroe Public School	Philadelphia, Pa	10	
"	11	College of Mineralogy	Ohio	4	
"	11	Teachers' Institute	Ft. Washington, N. Y.	9	
"	12	Colored School	Philadelphia, Pa	5	
"	12	College of Mineralogy	Ohio	4	
"	12	Chester Academy	Chester, Pa	26	
"	12	Teachers' Institute	Ft. Washington, N. Y.	8	
"	12	House of Refuge	Philadelphia, Pa	31	
"	14	Teachers' Institute	Ft. Washington, N. Y.	8	
"	15	House of Refuge	Philadelphia, Pa	55	
"	15	Teachers' Institute	Ft. Washington, N. Y.	8	
"	16	Burkhardt Public School	Germantown, Phil., Pa.	47	
"	16	Samuel H. Jenkins School	Philadelphia, Pa	7	
"	16	Girard College	"	65	
"	17	Samuel H. Jenkins School	"	7	
"	17	St. Peter's Orphan Asylum	Wilmington, Del	55	
"	17	Paschallville School and Girard College	Philadelphia, Pa	71	
"	17	Public School	Jacobstown, N. J	33	
"	18	Girard College	Philadelphia, Pa	62	
"	18	Samuel H. Jenkins School	"	7	
"	18	House of Refuge	"	56	
"	22	Chinese Students	Connecticut	134	
"	22	Girard College	Philadelphia, Pa	58	
"	22	Northern Liberties Grammar-School	"	10	
"	23	Girard College	"	78	
"	23	L. Collins's Select School	Albany, N. Y	9	
"	23	St. Paul's Sunday-School	Uwchlan, Pa	47	
"	23	Chinese Students	Connecticut	134	
"	23	School-Ship "Juniata."	Philadelphia, Pa	37	
"	23	29th Section Public School	"	8	
"	24	Sunday-School	Berks County, Pa	166	
"	24	" "	Hainesport, N. J	5	
"	24	Trinity Reform'd Sunday-School.	York, Pa	129	
"	24	Philadelphia Orphan Asylum	Philadelphia, Pa	30	
"	24	School-Ship "Juniata."	"	29	
"	24	Children's Home	"	15	
"	24	L. Collins's Select School	Albany, N. Y	11	
"	28	St. Luke's Sunday-School	Nicetown, Pa	93	
"	28	Church Home	Philadelphia, Pa	31	
"	28	Miss Sharpless's Select School	Tioga, Phila., Pa	16	
"	29	Sr. Class Rutledge Gram.-Sch.	Philadelphia, Pa	10	
"	30	Foster Home	"	32	
"	30	Soldiers' Orphans' Asylum	Chester Springs, Pa	17	
"	30	Chinese Students	Connecticut	134	Entered August 24. [but paid this day.
"	31	Sunday-Schools	Bucks County, Pa	587	
"	31	Ind. M. E. Sunday-School	Glassboro', N. J	330	
"	31	Miss H. G. Crosby's Select Sch.	Philadelphia, Pa	9	
"	31	Christ M. E. Sunday-School	"	97	
September	1	Church Home	"	17	
"	4	Girard College	"	156	

REPORT OF ADMISSIONS OF SCHOOLS.—*Continued.*

1876.	Name and Description of School.	Locality.	Number.	REMARKS.
September 4...	Burd Orphan Asylum	Philadelphia, Pa	20	
" 5...	Fairfax Hall Boarding-School	Winchester, Va	18	
" 5...	Cumberland Co. Sunday-Schools.	Cumberland Co., Pa	199	
" 6...	Fairfax Hall Boarding-School	Winchester, Va	24	
" 6...	Cumberland Co. Sunday-Schools.	Cumberland Co., Pa	140	
" 7...	Fairfax Hall Boarding-School	Winchester, Va	24	
" 7...	Cumberland Co. Sunday-Schools.	Cumberland Co., Pa	186	
" 8...	Fairfax Hall Boarding-School	Winchester, Va	22	
" 8...	Cumberland Co. Sunday-Schools.	Cumberland Co., Pa	118	
" 13...	Lincoln Boys' Grammar-School	Philadelphia, Pa	24	
" 13...	St Mark's Sunday-School	Frankford, Phila., Pa	9	
" 15...	Pennsylvania Training-School for Feeble-Minded Children	Philadelphia, Pa	23	
" 18...	Teachers' Association	Toronto, Canada	161	
" 18...	Colored House of Refuge	Philadelphia, Pa	25	
" 18...	W. Hunter Grammar-School	"	23	
" 19...	Teachers' Association	Toronto, Canada	176	
" 19...	Colored House of Refuge	Philadelphia, Pa	27	
" 19...	Sunday-School	Newtown, Pa	10	
" 20...	Teachers' Association	Toronto, Canada	168	
" 20...	Franklin and Marshall College	Lancaster, Pa	48	
" 20...	Colored House of Refuge	Philadelphia, Pa	31	
" 21...	Sunday-Schools	New York, N. Y	593	778 At School-rates.
" 21...	Keystone State Normal School	Kutztown, Pa	142	
" 21...	Teachers' Association	Toronto, Canada	40	
" 21...	Franklin and Marshall College	Lancaster, Pa	3	
" 22...	Teachers' Association	Toronto, Canada	151	
" 22...	Randolph Consolidated School	Philadelphia, Pa	98	
" 22...	Keystone State Normal School	Kutztown, Pa	18	
" 22...	Young Ladies' Institute		11	
" 25...	W. Hunter School	Philadelphia, Pa	19	
" 25...	Burd Orphan Asylum	"	17	
" 26...	Sunday-School	Freehold, N. J	260	
" 26...	St. George's M. E. Sunday-Sch	Philadelphia, Pa	53	
" 26...	Sunday-School	Pine Grove, Pa	17	
" 28...	Hyatt's Military Academy	Chester, Pa	90	Pennsylvania Day.
" 28...	Normal School	West Chester, Pa	37	
" 28...	Girard College	Philadelphia, Pa	93	
" 28...	Peirce's Business College	"	196	
" 28...	Other Schools of Philadelphia and vicinity	"	33,390	
" 29...	Westtown Boarding School	Chester Co., Pa	20	
" 29...	Divinity School of P. E. Church.	W. Philadelphia, Pa	5	
" 29...	Young Ladies' Institute	Philadelphia, Pa	9	
" 29...	Private School	"	7	
October 3...	Public School	Salem, N. J	21	
" 3...	Benjamin Rush Public School	Philadelphia, Pa.	26	
" 3...	Soldiers' Orphan Asylum	Mount Joy, Pa	158	
" 4...	Camac Public School	Philadelphia, Pa	63	
" 5...	St. John's Cadets	Alexandria, Va	22	
" 5...	Lincoln Public School	Lancaster, Pa	13	
" 5...	House of Immaculate Conception	Philadelphia, Pa	13	
" 5...	Private School	Mechanicsville, N. Y.	5	
" 6...	Public School	Bryn Mawr, Pa	29	
" 6...	Colored School	Philadelphia, Pa	19	
" 6...	St. John's Cadets	Alexandria, Va	21	
" 6...	Haddington Orphan Asylum	Philadelphia, Pa	28	
" 6...	Private School	Mechanicsville, N. Y.	5	
" 7...	Bethany Sunday-School	Philadelphia, Pa	12	
" 7...	High and Grammar-School	Chester, Pa	138	
" 7...	W. Hunter Public School	Philadelphia, Pa	13	
" 7...	Rittenhouse Grammar-School	"	58	
" 7...	St. John's Cadets	Alexandria, Va	19	
" 7...	Private School	Mechanicsville, N. Y.	7	
" 7...	Chegary Institute	Philadelphia, Pa	19	
" 7...	Bell Haven Public School	Alexandria, Va	27	
" 9...	Private School	Philadelphia, Pa	18	
" 9...	Misses Kutz and Latta's Pri. Sch.	"	8	
" 9...	Private School	Mechanicsville, N. Y.	6	
" 10...	Private School.	" "	5	
" 11...	Locust Street Grammar-School	Philadelphia, Pa	122	
" 11...	W. Hunter Public School	"	35	
" 11...	Mrs. M. W. Neoni's Private Sch.	Camden, N. J	10	
" 11...	Private School	Mechanicsville, N. Y.	6	
" 12...	Trinity College	Beverly, N. J	9	

REPORT OF ADMISSIONS OF SCHOOLS.—*Continued.*

1876.	Name and Description of School.	Locality.	Number.	Remarks.
October 12	Private School	Mechanicsville, N. Y.	6	
" 12	House of Immaculate Conception	Philadelphia, Pa	15	
" 13	Public School	Eddington, Pa	24	
" 13	N. J. State Normal School	Trenton, N. J	222	
" 13	Public Schools	Conshohocken, Pa	281	
" 13	C. F. Woodhull's Private School	Camden, N. J	7	
" 13	Miss Kutz and Latta's Private School	Philadelphia, Pa	8	
" 14	Fremont Seminary	Norristown, Pa	18	
" 14	Hyatt's Military Academy	Chester, Pa	18	
" 14	Chegary Institute	Philadelphia, Pa	17	
" 14	Sunday-School	"	10	
" 14	W. H. Hunter Public School	"	5	
" 16	Sunday-School	Nicetown, Pa	116	
" 16	Miss Kutz and Latta's Private School	Philadelphia, Pa	4	
" 17	Public Schools	Pittsburgh, Pa	395	
" 17	Northwest Grammar-School	Philadelphia, Pa	20	
" 17	Southwest " "	"	12	
" 17	Sunday-School	"	10	
" 17	Public School	Hanover, Pa	4	
" 18	Public Schools	Pittsburgh, Pa	408	
" 18	Newton Public School	Philadelphia, Pa	122	
" 18	Bryant and Stratton's Business College	"	41	
" 18	Public School	Chest. Hill, Phil., Pa.	37	
" 18	Locust Street Grammar-School	Philadelphia, Pa	11	
" 18	Sunday-School	Meyerstown, Pa	10	
" 18	Soldiers' Orphans' Asylum	Chester Springs, Pa	148	
" 19	Home for Friendless Children	Wilmington, Del	20	
" 19	Mrs. F. Morrow's School	Beverly, N. J	11	
" 19	Belmont Public School	Philadelphia, Pa	310	
" 19	Ringgold Grammar-School	"	140	
" 19	High School	Lancaster, Pa	34	
" 19	Girls' Normal School	Philadelphia, Pa	140	
" 19	Locust Street Public School	"	121	
" 19	W. H. Hunter " "	"	104	
" 19	Geo. W. Nebinger Public School	"	126	
" 19	Lincoln Public School	"	112	
" 19	Peirce's Business College	"	95	
" 19	Bryant and Stratton's Business College	"	27	
" 20	Mrs. B. D. Ames's School	Mechanicsville, Pa	8	
" 20	Camac Public School	Philadelphia, Pa	46	
" 20	Mrs. M. W. Nevin's School	Camden, N. J	9	
" 20	High School	Lancaster, Pa	32	
" 21	Public Schools	Norristown, Pa	537	
" 21	Academy	Glassboro', N. J	45	
" 21	High School	Lancaster, Pa	27	
" 21	Mrs. B. D. Ames's School	Mechanicsville, Pa	6	
" 21	Miss Blodgett's School	Philadelphia, Pa	5	
" 21	H. Herbert Grammar-School	"	11	
" 21	Deaf and Dumb Institute	"	15	
" 21	Divinity School of P. E. Church	"	6	
" 21	Hyatt's Military Academy	Chester, Pa	14	
" 21	Calvary Sunday-School	Philadelphia, Pa	12	
" 21	Girls' Normal School	"	23	
" 21	Northeast Grammar-School	"	41	
" 21	Linden Hall Seminary	"	13	
" 21	G. W. Nebinger Public School	"	66	
" 23	Lutheran Home for Friendless Children	"	70	
" 23	Public School	Moorestown, N. J	25	
" 23	Mrs. B. D. Ames's School	Mechanicsville, Pa	6	
" 23	Harris Public School	Philadelphia, Pa	49	
" 24	Haverford College	"	5	
" 24	Mrs. B. D. Ames's School	Mechanicsville, Pa	7	
" 24	26th Section Public School	Philadelphia, Pa	20	
" 24	Academy	Cheltenham, Pa	43	
" 24	St. Vincent's Orphan Asylum	Philadelphia, Pa	104	
" 24	C. H. Woodhull's School	Camden, N. J	7	
" 24	St. Agnew's School	Philadelphia, Pa	7	
" 25	Holy Trinity Sunday-School	"	459	
" 25	Girls' Normal School	"	81	
" 25	G. W. Nebinger Public School	"	35	

REPORT OF ADMISSIONS OF SCHOOLS.—*Continued.*

1876.	Name and Description of School.	Locality.	Number.	Remarks.
October 25...	Locust St. Public School...........	Philadelphia, Pa........	73	
" 26...	Girls' Normal School.................	"	194	
" 26...	Hancock Grammar-School.........	"	163	
" 26...	H. Binney Grammar-School.......	"	64	
" 26...	G. W. Nebinger Public School....	"	27	
" 26...	Southwestern Public School........	"	16	
" 26...	Broad Street Academy...............	"	18	
" 27...	Central High School..................	"	460	
" 27...	Beck Public School....................	"	154	
" 27...	Public Schools............................	Reading, Pa..............	488	
" 27...	St. Mary's School......................	Philadelphia, Pa........	24	
" 27...	Mrs. W. Morris's School............	Camden, N. J............	10	
" 27...	Broad Street Academy...............	Philadelphia, Pa........	12	
" 27...	H. Binney Public School............	"	16	
" 27...	Peddick's Institute.....................	Hightstown, N. J.......	18	
" 27...	House of Refuge........................	Philadelphia, Pa........	4	
" 28...	Christ Church Choir Boys	Danville, Pa..............	17	
" 28...	Pennsylvania Military Academy.	Philadelphia, Pa........	42	
" 28...	Pennsylvania Training-School....	"	20	
" 28...	Normal School..........................	Farmington, Me.........	38	
" 28...	Grammar-School........................	Chester, Pa................	60	
" 28...	Public School............................	Merion Square, Pa......	20	
" 28...	Holy Trinity Sunday-School......	Philadelphia, Pa........	364	
" 28...	Philadelphia Public Schools.......	"	610	
" 30...	St. John's German Lutheran Sch	"	141	
" 30...	Normal School..........................	Farmington, Me.........	63	
" 30...	Northern Home for Friendless Children................................	Philadelphia, Pa........	28	
" 30...	Girard College...........................	"	8	
" 30...	Camac Public School.................	"	42	
" 30...	Christ Church Choir Boys..........	Danville, Pa..............	17	
" 30...	G. W. Nebinger Public School....	Philadelphia, Pa........	57	
" 31...	Public Schools............................	Syracuse, N. Y..........	483	
" 31...	St. Paul's German Lutheran Sch.	Philadelphia, Pa........	185	
" 31...	Trinity German Luth. Sun.-Sch..	Camden, N. J............	67	
" 31...	Normal School..........................	Farmington, Me.........	48	
" 31...	E. M. Stanton and other Public Schools................................	Philadelphia, Pa........	411	
November 1...	Public Schools............................	Syracuse, N. Y..........	287	
" 1...	Forest Public School..................	Schuylkill Falls, Pa....	233	
" 1...	Camac Public School.................	Philadelphia, Pa........	617	
" 1...	Vaughan Public School..............	"		
" 1...	W. H. Hunter Public School......	"		
" 2...	Wanamaker Mission..................	"	77	
" 2...	Sunday-School..........................	Chambersburg, Pa......	220	
" 2...	Public School..........	Syracuse, N. Y..........	245	
" 2...	H. Binney Public School...........	Philadelphia, Pa........	560	
" 2...	Camac Primary School..............	"		
" 2...	Locust St. Public School...........	"		
" 2...	W. H. Hunter Public School......	"		
" 3...	Public School............................	Dover, Del................	110	
" 3...	"	Bridgeport, Pa...........	1,236	
" 3...	Levering Public School.............	Philadelphia, Pa........		
" 3...	Keystone Public School............	"		
" 3...	Beck Public School....................	"		
" 3...	Mt. Vernon Home for Friendless Children................................	Wilmington, Del........		
" 3...	13th Section Public Schools........	Philadelphia, Pa........	864	
" 4...	Public School............................	Atlantic City, N. J.....	391	
" 4...	"	Smith's Landing, N. J.	100	
" 4...	Notre Dame School...................	Baltimore, Md..........	14	
" 4...	Divinity School.........................	Philadelphia, Pa........	8	
" 4...	Epiphany Sunday-School..........	"	45	
" 4...	Chegary Institute......................	"	16	
" 4...	Bryant and Stratton's Business College..................................	"	12	
" 4...	Park Avenue Public School........	"	2,426	
" 4...	Belmont Public School..............	"		
" 4...	Northwestern Public School.......	"		
" 4...	H. Binney Public School...........	"		
" 4...	G. W. Nebinger Public School...	"		
" 4...	La Salle College........................	"		
" 4...	Barnes Sunday-School..............	"		
" 6...	Emlen Institute (Colored)...........	Bucks Co., Pa...........	13	
" 6...	Public School............................	Hammonton, N. J......	176	

REPORT OF ADMISSIONS OF SCHOOLS.—*Continued.*

1876.	Name and Description of School.	Locality.	Number.	REMARKS.
November 6...	L. H. Smith Public School........	Philadelphia, Pa........	1,115	
" 6...	Camac "	"		
" 6...	Webster "	"		
" 6...	G. W. Nebinger and other Public Schools..............................	"		
" 6...	Miss Eldridge's Private School...	"		
" 7...	Sunday-School..........................	Gloucester, N. J........	1,696	
" 7...	Hallowell Public School............	Philadelphia, Pa........		
" 7...	Sherman "	"		
" 7...	McClellan "	"		
" 7...	Barton "	"		
" 7...	Boudinot "	"		
" 7...	Newton "	"		
" 7...	Price "	"		
" 7...	Hollingsworth "	"		
" 7...	G. W. Nebinger "	"		
" 7...	W. H. Hunter "	"		
" 7...	Lincoln "	"		
" 7...	Girls' Normal School..................	"		
" 8...	Newton Public School...............	"	1,392	
" 8...	Martha Washington Public Sch..	"		
" 8...	Locust Street Public School........	"		
" 8...	Lincoln "	"		
" 8...	Northern Liberties "	"		
" 8...	Howard "	"		
" 8...	Ludlow "	"		
" 8...	H. Herbert "	"		
" 8...	G. W. Nebinger "	"		
" 8...	Meade "	"		
" 8...	Cohocksink "	"		
" 8...	Hollingsworth "	"		
" 9...	Peirce's Business College...........	"	325	
" 9...	Public and Private Schools.........	"	6,432	
" 10...	Peirce's Business College...........	"	396	
" 10...	Public and Private Schools.........	"	4,070	
			74,214	
Estimated on Seven Saturdays..........			70,000	
Total..........			144,214	

CASH ADMISSIONS THROUGH EACH TURNSTILE, NUMBER OF DAYS USED, AND DAILY AVERAGE.

Number of Turnstile.	May. 19	June. 26	July. 26	August. 27	September. 26	October. 26	November. 9	Total Admissions.	Number of Days Turnstile Used.	Daily Average.
1	....	....	919	....	....	....	....	919	3	306
2	10,142	....	1,482	....	....	....	....	11,624	19	612
3	....	2,053	3,709	443	....	....	....	6,205	44	141
4	1,735	....	1,113½	113	....	....	....	2,961½	7	423
5	74	....	....	....	....	....	....	74	1	74
6	6,486	15,875	11,078	23,162	17,821	....	....	74,442	103	723
7	497	....	2,811	6,651	28,089	40,221	15,707	93.976	77	1,220
8	1,013	....	3.375	17,176	34,003	34,523	12,929	103,019	97	1,062
9	1,164	....	12,772	55,190	47.706	25,320	13,195	155.347	101	1,538
10	731	....	21,280	67,888	51,015½	29,323	6,368	176,605½	102	1,731
11	3,356	....	....	6,874	25.440½	29,090	8,876	73,636½	54	1,364
12	1,481	....	....	8,254	15.758	27,570	13,990	67,053	49	1,368
13	5,875	4,734	2,593	13,007	43.600	51,970	21,522	143,301	92	1,558
14	742	....	....	....	35,553	51,306	19,682	107,283	49	2,189
15	6,616	7,186½	6,228	17,172	20,264½	....	....	57,467	68	845
17	4,645	....	....	....	33,037½	74,107	29,213	141,002½	49	2,878
18	23,614½	45.923½	25,377½	....	56,492	89,379	38,092	278,878½	110	2,535
19	20,865	47,602½	23,336	....	53,268	84,378	33,967	263,416½	109	2,417
20	96	23,386	24,510	....	34,462½	82,142	31,356	195.952½	79	2,481
21	1,143	18	....	....	....	....	....	1,161	2	581
22	3,005½	6,193	5,340	7.738	23,523	28,551	9,894	84,244½	155	543
23	3,588	7,880	5,626	8,497	25,486	29,329	7,604	88,210	155	569
24	1,450	....	....	....	1,496	....	....	2,946	3	982
25	388	....	....	....	....	....	....	388	3	129
26	5.475	12,487	15,374	20,671	41,572	48,944	18,118	162,641	156	1,042
27	5,885	8,340	2,928	1,622	9,689	53,238	16,886	98,588	96	1,027
28	4,446½	23,176½	21,431	26,841	49,969	....	....	125,864	118	1,067
29	2,512	....	627	....	174	....	....	3,313	8	414
30	2,623	....	588	....	905	....	....	4,116	8	518
31	2,953	....	1,093	....	4.126	....	....	8,172	15	545
32	2,814	....	1,448	....	3,456	....	....	7,718	13	594
33	3,782½	7.958	3,253	....	6,978	11,440	4,038	37.449½	101	371
34	5,106	10,417	4,080	542	8,174	21,860	4,967	55,146	105	523
35	3.137	61	2,857	485	2,809	....	....	9.349	34	287
36	3,092	....	....	....	588	....	....	3,680	15	245
37	277	....	....	....	945	....	....	1,222	3	407
38	6,703	19,583	18,466	24.959	48,913	47.264	15,517	181,435	159	1,141
39	1,709	4,314	13.465	19,860	50,417½	39,824	15,041	144,630½	126	1,148
40	1,315	....	....	....	....	....	....	1,315	3	438
41	3,410	8,152	7,417	8,753	27,246	26,170	8,008	89.156	140	610

42	6,874	15,832	11,593	23,528	51,534	61,068	26,432	196,861	155	1,270
43	8,818	23,139½	24,224	28,823	62,242	65,004	20,130	232,380½	155	1,499
44	3,059							3,059	3	1,019
45	43,982½	76,813½	49,396½	68,232	107,407	120,014	48,425	514,290½	157	3,276
46	29,551½	53.379	42,480	56 160	102,698	108,085	44,341	436,694½	158	2,764
47	23,143½	32,258	24,795½	35,022	77,856	90,230	34,621	317,926	158	2,012
48	20,232½	27,198	15,084½	29,310	70,475	81.374	29,279	272,953	158	1,727
49	6,964	22,290½	16,458	18,623	19.734	28,694	13,362	126,125½	137	921
50	1,374			2,090	23,251½	36,343	15,453	78,511½	54	1,454
51	1,642			2,173	18,319	23,108	12,359	57.601	50	1,152
52	1,300			1,751	17,441	30,669	11,948	63,109	52	1,213
53	1,536			1,948	16,385	29,386	11,854	61,109	53	1,153
54	7,096	18,470	16,036	16,667	21,648	34,895	12,609	127,421	140	910
55	1,008					5		1,013	4	253
56	683							683	3	228
57	3,628	6,432	5,628	5,856				21,544	78	277
58	3,130	5,545	3,523	4,846				17,044	80	213
59	573	147	386	310	1,641			3,057	11	278
60	663	583	731		2,965½	28.836	14,918	48,696½	43	1,133
61	2,655	3,161	1,068	13,212	34,632	28,621	10,210	93.559	108	866
62	2,812	7,748	4,756½	10,464	30,422	25,333	12,249	93,784½	128	733
63	655			8,993	20,738	25,227	11,457	67,070	71	945
64	1,420			9,787	32,494	31,845	14,930	90,476	72	1,257
65	11,143	18,574	22,955	34.670	36,560	23,542	12,635	160,079	148	1,082
66					2,027			2,027	1	2,027
67	38		408					446	5	89
68	9	308						317	2	158
69	875	4,249	5,355	6,886	16,725	13,275	4,941	52,306	146	378
70.		237						237	1	237
71					891	10,015	14,327	35,233	16	1,577
73	918	7,569	13,225	21,288	37,926	29,892		110,818	142	780
74						287		287	1	287
75		121	1,173					1,294	18	72
77	14							14	1	14
78	1,143	2,238	1,622	4,921	4,831	3,920	2,260	20,935	157	133
79	54							54	1	54
80	8		337					345	4	86
83		628	2,232	3,356	5,458	2,884	1,727	16,285	130	125
87		201			7,860½	9,529	6,418	24,008½	30	800
88			1,117		21,345	25,967	8,498	56,927	52	1,095
89	2,712	9,804	8,070	12,435	36,601½	34,935	14,503	119,060½	148	804
91	311							311	2	155
92	5,211	16,026½	15,236½	11,494	25,830	25,828	10,325	109,951	156	705
93	1,128	9,648	9,351	8,136	15,849	19,421	7,705	71,238	140	509
94	523		4,012		1,743			6,278	17	369
95	74		3,527		1,680			5,281	14	377
96	1,575							1,575	2	788
Carried forward	352,483	617,940	549,557½	766,879	1,730,217	1,974,201	772,886	7,774,163½		

CASH ADMISSIONS THROUGH EACH TURNSTILE, NUMBER OF DAYS USED, AND DAILY AVERAGE.—*Continued.*

Number of Turnstile.	May. 19	June. 26	July. 26	August. 27	September. 26	October. 26	November. 9	Total Admissions.	Number of Days Turnstile Used.	Daily Average.
Brought forward	352,483	617,940	549,557½	766,879	1,730,217	1,974,201	772,886	7,774,163½		
97	1,421	....	....	....	....	....	....	1,421	2	710
98	1,633	....	....	....	....	....	....	1,633	3	544
99	2,897	399	495	9,396	28,033	27,017	8,930	77,167	112	689
100	118	....	129	....	4,152½	....	....	4,399½	3	1,466
101	37	....	....	436	10,920	36,234	11,171	58,798	46	1,278
102	3,374	1,867	3,993	172	23,629	39,956	9,480	82,471	113	730
104	78	82	5,298	19,140	62,636	65,105	21,983	174,322	100	1,743
105	3,840	32,791	32,708½	45,246	76,678	76,788	36,258	304,309½	144	2,113
106	4,136	38,770	42,591	52,040	82,700½	87,832	35,044	343,113½	144	2,382
Gate "A"	....	3,817	1,519	5,321	12,389	11,911	23,153	58,110	81	717
Wagon Gates	....	....	227	28	24,561	113	....	24,929	7	3,561
Not credited to Turnstiles	8,963	....	....	26	....	....	....	8,989	7	1,274
2	....	....	....	....	13,920	....	....	13,920	7	1,989
3	....	....	....	....	40,780	8,461	....	49,241	36	1,368
4	....	....	....	....	2,429	4,817	....	7,246	3	2,415
68	....	....	....	....	17,946	2,095	....	20,041	24	831
Total	378,980	695,666	636,518	908,684	2,130,991	2,334,530	918,905	8,004,274		

CASH ADMISSIONS THROUGH SIXTEEN TURNSTILES DURING TWO HOURS, ON THE 18th AND 19th OF OCTOBER.

DATE. 1876.	NUMBER OF TURNSTILE.	HOURS. 8 TO 9.	HOURS. 9 TO 10.	TOTAL ADMISSIONS FOR TWO HOURS.	AVERAGE FOR EACH TURNSTILE FOR ONE HOUR.
Wednesday, October 18	11	1,669	1,191	2,860	1,430
" " 18	17	1,181	1,245	2,426	1,213
" " 18	18	1,065	1,081	2,146	1,073
" " 18	19	1,451	1,569	3,020	1,510
" " 18	20	1,304	1,201	2,505	1,252
Thursday, " 19	12	1,253	1,159	2,412	1,206
" " 19	13	1,063	957	2,020	1,010
" " 19	14	1,183	973	2,156	1,078
" " 19	17	1,128	1,132	2,260	1,130
" " 19	18	1,190	1,200	2,390	1,195
" " 19	19	1,200	1,325	2,525	1,262
" " 19	20	1,154	1,196	2,350	1,175
" " 19	45	1,610	1,870	3,480	1,740
" " 19	46	1,115	1,435	2,550	1,275
" " 19	47	1,180	1,490	2,670	1,335
" " 19	48	1,040	1,190	2,230	1,115
		19,786	20,214	40,000	

Largest Number of Admissions in an Hour	1,870
Smallest " " "	957
Average " " " 8 to 9	1,237
Average " " " 9 to 10	1,263
" " " Two Hours	2,500

AMOUNT OF COUNTERFEIT MONEY TAKEN, AND AVERAGE TO EACH TURNSTILE.

MONTHS.	CASH ADMISSIONS.	RECEIPTS.	AMOUNT OF COUNTERFEIT MONEY EACH MONTH.	PERCENTAGE OF RECEIPTS IN COUNTERFEIT MONEY.	AVERAGE NUMBER OF TURNSTILES IN USE FROM MAY 10 TO NOV. 10.	AMOUNT OF COUNTERFEITS TO EACH TURNSTILE, FROM MAY 10 TO NOV. 10.	DAILY AVERAGE AMOUNT TO EACH TURNSTILE.
May 19	378,980	$189,490.35	$60.00	.00031	43	$23.28	$0.14
June 26	695,666	347,833.41	68.50	.00019			
July 26	636,518	318,199.23	62.50	.00019			
August 27	908,684	415,659.25	87.75	.00021			
September 26	2,130,991	928,056.00	199.25	.00021			
October 26	2,334.530	1,160,811.50	328.00	.00028			
November 9	918,905	453,674.75	195.00	.00043			
159	8,004,274	$3,813,724.49	$1,001.00	,00026			

ADMISSIONS AT TWENTY TURNSTILES ON SEPTEMBER 28.

DATE. 1876.	Number of Turnstile.	Number of Admissions through each Turnstile.	Number of Hours in Use.	Average per Hour.	
September 28	13	4,304	10	430.4	610
"	15	3,891		389.1	
"	17	4,890		489	
"	18	6,574		657.4	
"	19	6,492		649.2	
"	20	7,013		701.3	
"	26	4,317		431.7	
"	28	4,429		442.9	
"	42	4,868		486.8	
"	43	5,211		521.1	
"	45	8,655		865.5	
"	46	8,919		891.9	
"	47	5,921		592.1	
"	48	6,814		681.4	
"	87	6,935		693.5	
"	88	7,103		710.3	
"	89	9,994		999.4	
"	100	4,152		415.2	
"	105	5,720		572	
"	106	5,829		582.9	
		122,031			

A COMPARATIVE TABLE OF ADMISSIONS AND RECEIPTS OF SEVEN SATURDAYS AT FIFTY CENTS AND THE SEVEN SATURDAYS AT TWENTY-FIVE CENTS.

SEVEN SATURDAYS AT FIFTY CENTS.

DATE. 1876.	Admissions.	Receipts.	Average Daily Receipts.	Average Daily Admissions.
Saturday, August 5	22,304	$11,152.00	$30,600.18	61,654
" " 12	22,314	11,138.50		
" October 7	72,894	36,367.50		
" " 14	78,278	38,899.75		
" " 21	72,929	36,259.25		
" " 28	78,730	39,072.25		
" November 4	84,130	41,312.00		
	431,579	$214,201.25		

SEVEN SATURDAYS AT TWENTY-FIVE CENTS.

DATE. 1876.	Admissions.	Receipts.	Average Daily Receipts.	Average Daily Admissions.
Saturday, August 19	54,045	$13,511.25	$21,297.14	85,189
" " 26	97,172	24,293.00		
" September 2	59,412	14,853.00		
" " 9	104,314	26,078.50		
" " 16	92,080	23,020.00		
" " 23	84,627	21,156.75		
" " 30	104,670	26,167.50		
	596,320	$149,080.00		

Seven Saturdays at 50 Cents	$214,201.25
Seven Saturdays at 25 Cents	149,080.00
Difference in favor of the Seven Saturdays at 50 Cents	$65,121.25

STATEMENT OF COMPLIMENTARY TICKETS.

FULL TERM.		
Received from Philadelphia Bank Note Company direct		4961
Received through Press Committee, as per their statement		800
Total Complimentary (Full Term) Tickets received		5761
Issued as per Register	2935	
Spoiled and Canceled (on hand)	29	
Used in Office Album	1	
Issued by Press Committee, as per their statement	182	
On hand	2614	5761

TEMPORARY.		
Received from Dreka		1000
Issued as per Register	955	
Canceled (on hand)	22	
Used in Office Album	2	
On hand	21	1000

STATEMENT OF PHOTOGRAPH TICKETS.

Received from Philadelphia Bank Note Company direct			31,000
Received through Press Committee, as per their statement			3,800
Total Photograph Tickets received			34,800
ISSUED.			
	Exhibitors.	Attendants.	
To Main Building	2,724	2,187	
" " Annex	409	279	
" Machinery Hall	2,816	3,880	
" Agricultural Hall	1,405	1,192	
" Horticultural Hall	126	74	
" Art Gallery	469	61	
" Foreign Department	2,029	2,462	
" Concessions		5,452	
" Grounds and Buildings		2,897	
" Employees		1,487	
" Telegraph Department		219	
" Medical Bureau		11	
By Press Committee, as per their statement		3,708	
	9,978	23,909	
		9,978	
Total Photograph Tickets issued		33,887	
Tickets spoiled	177		
" given as souvenirs	8		
" missing, No. 27,898 and No. 30,394	2		
" without numbers	4		
" on hand	722		
		913	
			34,800

SALES OF MALT LIQUOR STAMPS.

	Barrels.	½ Barrels.	¼ Barrels.	⅛ Barrels.	
May	446	722	106	24	$2,593.15
June	67	1,992	427	24	3,635.53
July	388	1,058	414	164	3,227.10
August	503	1,346	530	43	4,073.04
September	1,074	1,835	602	56	6,661.92
October	768	1,592	668	36	5,380.07
November 1 to 10	273	588	233	9	1,941.77
	3,519	9,133	2,980	356	$27,512.58
November 11	8	60	11	....	126.33
	3,527	9,193	2,991	356	$27,638.91
Brought on ground previous to May 10, for which no stamps were given	51	17			
Stamps actually issued	3,476	9,176	2,991	356	
Amount	....	....	....	....	$27,638.91

SALES OF MINERAL WATER STAMPS.

	Ten Gallons.	One Dozen Pints.	
May	720	306¼	$1,531.85
June	1,696	....	3,392.00
July	1,681	209	3,424.70
August	1,500	269	3,080.70
September	1,839	304	3,769.20
October	850	199	1,759.70
November 1 to 11	200	56	416.80
	8,486	1,343¼	$17,374.95
November 11		3	.90
	8,486	1,346¼	$17,375.85
Brought on ground previous to May 10, for which no stamps were given	16	34¼	
Stamps actually issued	8,470	1,312	
Amount	....	....	$17,375.85

RECAPITULATION.

MINERAL WATER.		
8470 ten-gallon stamps @ $2.00	$16,940.00	
1312 one-dozen pint stamps @ .50	393.60	
Brought on ground previous to May 10, for which no stamps were given	42.25	
		$17,375.85
MALT LIQUOR.		
3476 one-barrel stamps @ $3.10	$10,775.60	
9176 one-half-barrel stamps @ 1.55	14,222.80	
2991 one-quarter-barrel stamps @ .77½	2,318.03	
356 one-eighth-barrel stamps @ .38¾	137.95	
Brought on ground previous to May 10, for which no stamps were given	184.45	
Fractional differences, occurring as follows:	.08	
June 26		
August 4		
" 10		
" 15		
" 18		
" 24		
September 12		
" 19		
" 29		
October 13		
" 23		
" 26		
" 30		
November 2		
" 9		
" 11		27,638.91
Total		$45,014.76

The above statement shows that there was sold during a period of 160 days 86,879¼ gallons of Mineral Water, being an average of 543 gallons per day, amounting to $108.60

And of Malt Liquor, during the same period, 8915¾ barrels, or an average of 55 4-7 barrels per day, amounting to 172.71

Total Average $281.31

STAMP ACCOUNT.

	MINERAL WATER.			MALT LIQUOR.						
	Ten Gallons.	Two Dozen Pints.	One Dozen Pints.	Barrels.	½ Barrels.	¼ Barrels.	⅙ Barrels.	⅛ Barrels.	Eleven Dozen Pints.	Eight Dozen Pints.
Received	8500	1900	2500	3500	9500	3000	1500	1500	500	2500
Sold	8470	....	1312	3476	9176	2991	....	356	....	....
Not issued	30	1900	1188	24	324	9	1500	1144	500	2500

RECAPITULATION.

MINERAL WATER STAMPS.

	Ten Gallons.	Two Dozen Pints.	One Dozen Pints.
Received	No. 1 to 8500	No. 1 to 1000	No. 1 to 2500
Received	....	No. 1101 to 2000	....
Sold	No. 1 to 8470	....	No. 1 to 1312

MALT LIQUOR STAMPS.

	Barrels.	½ Barrels.	¼ Barrels.	⅙ Barrels.	⅛ Barrels.	Eleven Dozen Pints.	Eight Dozen Pints.
Received	No. 1 to 3500	No. 1 to 9500	No. 1 to 3000	No. 1 to 1500	No. 1 to 1500	No. 1 to 500	No. 1 to 2500
Sold	No. 1 to 3476	No. 1 to 9176	No. 1 to 2991	....	No. 1 to 355	....	....
Sold	....	....	....	....	No. 500	....	....

DEPARTMENT OF ADMISSIONS.—EXHIBIT A.

WEEKLY SCHEDULE. TOURS OF DUTY.

MONEY GATES.

GROUPS.		MONDAY.		TUESDAY.		WEDNESDAY.		THURSDAY.		FRIDAY.		SATURDAY.	
A	*Post*....	1	2	3	....	1	2	3	....	1	2	3	....
	Time....	8-11½	1-6	8-2½	....	8-11½	1-6	8-2½	....	8-11½	1-6	8-2½	....
B	*Post*....	2	3	....	1	2	3	....	1	2	3	....	1
	Time....	8-1	2½-6	....	11½-6	8-1	2½-6	....	11½-6	8-1	2½-6	....	11½-6
C	*Post*....	3	....	1	2	3	....	1	2	3	....	1	2
	Time....	8-2½	....	8-11½	1-6	8-2½	....	8-11½	1-6	8-2½	....	8-11½	1-6
D	*Post*....	....	1	2	3	....	1	2	3	....	1	2	3
	Time....	....	11½-6	8-1	2½-6	....	11½-6	8-1	2½-6	....	11½-6	8-1	2½-6

COMPLIMENTARY AND EXHIBITORS' GATES.

GROUPS.		MONDAY.		TUESDAY.		WEDNESDAY.		THURSDAY.		FRIDAY.		SATURDAY.	
A	*Post*....	1	2	3	....	1	2	3	....	1	2	3	....
	Time....	7-11	12½-6	7-2	....	7-11	12½-6	7-2	....	7-11	12½-6	7-2	....
B	*Post*....	2	3	....	1	2	3	....	1	2	3	....	1
	Time....	7-12½	2-6	....	11-6	7-12½	2-6	....	11-6	7-12½	2-6	....	11-6
C	*Post*....	3	....	1	2	3	....	1	2	3	....	1	2
	Time....	7-2	....	7-11	12½-6	7-2	....	7-11	12½-6	7-2	....	7-11	12½-6
D	*Post*....	....	1	2	3	....	1	2	3	....	1	2	3
	Time....	....	11-6	7-12½	2-6	....	11-6	7-12½	2-6	....	11-6	7-12½	2-6

RULE FOR WORKING SCHEDULE. MONEY GATES.

Group A, Post 1, will be relieved by Group D at 11.30 A.M.; and at 1 P.M. Group A will in turn relieve Group B on Post 2, and remain on duty until closing hours. Group B will in turn relieve Group C on Post 3 at 2.30 P.M., and remain on duty until closing hours; and so repeat every third day.

Rule for working Complimentary and Exhibitors' Gates on same principle as Money Gates.

The sliding scale of the letters designating the Groups dispose of said Groups each week as the letter of the Group meets the number of Monday's Post.

Department of Admissions. Specifications.

SPECIFICATIONS.

MONEY ENTRANCES, WAGON GATES, EXITS, AND EXCHANGE OFFICES.

To be built entirely out of best quality white-pine, and in the Pavilion style. Posts, rails, rafters, etc., stop-chamfered. Fillings for panels of one-inch boards, four inches wide.

Doors and sashes three inches, and one and three-quarter inches thick, respectively, and fitted up as usual.

Cornices to correspond throughout, with one-inch jig-sawed apron, and soffit-mould.

Roofs covered with felt-paper and tar. All wood-work twice oiled and twice varnished.

MONEY REGISTERS.

Counters to indicate from zero to 9999. Counter wheels geared with Geneva stop-motion. No springs. Back-shaft locked into place, but movable by special key to permit counter wheels to be set back to zero. All the works inclosed in a stout cast-iron case, with glass cover for the figure-holes.

TURNSTILES.

Each turnstile to be arranged to work in a frame-work to be made of the best ash. The top board or counter being of mahogany of same quality as the model. The top board 4 feet 1 inch long by 2 feet 6 inches wide; with a counter at one end for money-box; this projection being 2 feet long by 10 inches wide, with the cover hinged to close down on the money-box; height of frame from floor to top of counter 3 feet 7 inches. The frame to be inclosed on the back and one end with ash panels, the top rail of the back being 9½ inches wide, to permit the easy attachment of one guard-rail, as shown in model. The panels beginning below the bottom of the rail. The front top rail to be 4⅜ inches deep, notched out in middle to form a box for the reception of the registering machine,—in all respects like similar box in model. The turnstile arms to project 21 inches from the centre, and to be firmly fitted to sockets on centre castings on the top and bottom of turnstile post. The bottom iron to be arranged with ratchet-wheel to prevent the gate from turning but in one direction. The bottom pin of the lower casting to work in a brass bushing in the foot-plate or step. The top pin to be fitted to work in a brass bearing, which will be furnished by the maker of the registering machine. The box containing the register to be covered as shown in model, and be securely fastened by a good two-tumbler lock, of approved quality, all the locks being operated by one key. On the counter for the cash-taker, a provision must be made to receive such metal box as may be decided on for the reception of the money, and an opening must be provided in a convenient position for the dropping of the money into the box below. The necessary plates, etc., which will be required to perfect the money-box attachment when supplied by the maker of the money-boxes, must be fitted to the wood-work.

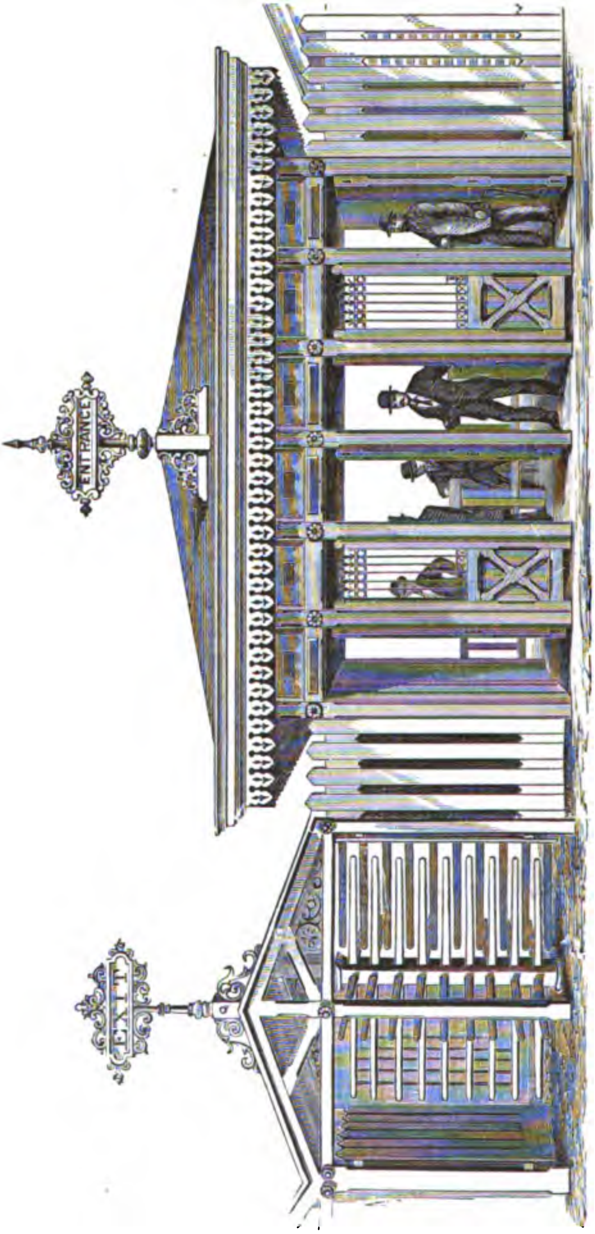
EXIT TURNSTILES.

Department of Admissions. Specifications.

The exit turnstiles worked in a space of eight feet wide and seven feet high in the clear, the outside frame being of 6 by 8 yellow-pine timber, morticed and tenoned together. The turnstile or revolving post was 9 by 9 yellow-pine, with eight ash arms framed in on each face, making thirty-two arms, seven inches apart, in the revolving post. Nine ash arms framed in one of the outside posts, the same distance apart as the arms in the turnstile, and stagered, in order that the arms in the turnstile would pass through (when revolving) the arms in the outside post. The turnstile worked with a cast-iron journal fastened to the top rail of the frame, and at the bottom an iron box and pivot, with a silent ratchet-movement, fastened to the sill of the frame, allowing the turnstile to revolve only one way, permitting egress only.

Department of Admissions.

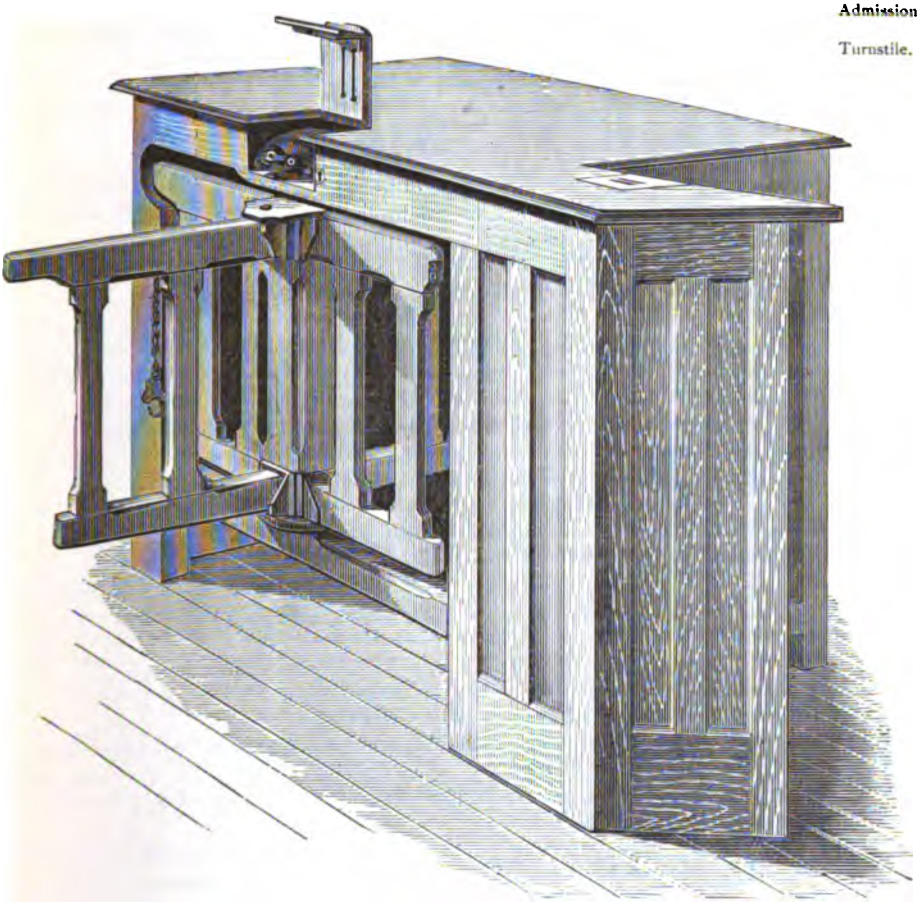
Exit and Entrance Gate.



EXIT AND ENTRANCE GATE.

Department of Admissions.

Turnstile.



TURNSTILE.

Cash-box

CASH-BOX.

EXHIBIT B.

Department of Admissions. Official orders.

ORDERS REGULATING THE DEPARTMENT.

[No. 1.]

The Chief Inspector will carry out all orders issued by the General Manager.

Notify the Inspectors by "Bulletin" posted in his office, where they will assemble in advance of their respective tours of duty, and furnish them with a duty slip.

Make daily inspection of the fence line, and the condition and number of force reporting for duty.

Make weekly inspection of sanitary condition of the force.

Hear complaints made against any member of the force, take statements and counter-statements, and submit the same in writing.

Make daily report to General Manager.

By order of the General Manager.

[No. 2.]

Inspectors will be made responsible for the prompt attendance of the men composing their groups one-half hour in advance of the hour for posting.

Their duty will be to assemble their groups, call the roll, and make report of absentees to Chief Inspector.

Post those reporting for duty, and report the number of stile occupied by each to Chief Inspector.

In posting, examine carefully the stile-register, avoiding those not placed at zero, or containing the card of the Superintendent of Turnstiles, indicating that such turnstile is out of order.

Make proper reliefs of their groups on schedule time.

Take state of the turnstile register on relieving in the stub-book provided for such purpose, deposit the corresponding record on leaf of stub-book in money-box before unlocking the same from the turnstile, and place the money-box in charge of the Stile-keeper to deposit the same in bank.

Make daily report of the record of the stub-book, with remarks, it any, to Chief Inspector.

By order of the General Manager.

[No. 3.]

The Superintendent of Turnstiles will keep in good repair the turnstile registers, exits, and entrance gates.

Take record of registers after the Turnstile-keepers are relieved from duty for the day, and place them back to zero.

Leave his card marked "not in order" locked in box containing registers not in good order.

Department of Admissions. Official orders

See that the arms of turnstiles have been securely locked by the Inspectors.

Report any irregularities seen while examining registers.

Make daily report of turnstiles not in working order, with remarks, if any, to Chief Inspector.

By order of the General Manager.

[No. 4.]

Inspectors will report to Inspector in charge of uniforms without delay the number (with names) of men in their respective groups who have not been measured for uniforms.

By order of the General Manager.

[No. 5.]

Keepers of Complimentary and Exhibitor turnstiles, when detailed for first tour of duty, will be required to report to the Inspector of their respective groups at 6½ o'clock A.M. Gates will be open from 7 A.M. until 6½ o'clock P.M.

Pass-check Keepers at Exit gates will report at 7 o'clock A.M. to their Inspector.

Keepers of money-stiles, when detailed for first or morning tour of duty, will report at 7½ o'clock A.M. to the Inspectors of their respective groups. These gates will be open from 9 o'clock A.M. to 6½ o'clock P.M.

Exhibitors' gates Nos. 55 and 56, corner of Elm and Belmont Avenues, will be open from 4 o'clock A.M. to 7½ o'clock A.M., and from 6½ o'clock P.M. until midnight. Men detailed for this duty will report daily for duty to Inspector. On being relieved in the morning they will report to the Chief Inspector.

By order of the General Manager.

[No. 6.]

Inspectors will without delay furnish corrected roll of their respective groups in alphabetical order. In rearranging money groups care will be taken to retain men most competent to discharge the duty incumbent upon them.

By order of the General Manager.

[No. 7.]

Inspectors and Stile-keepers will without delay have their photographs taken (regulation size). No ticket will be issued to the parties named until they comply with this order.

By order of the General Manager.

[No. 8.]

Stile-keepers having frequently been admonished about the impropriety of holding money in their hands instead of depositing in the box at once, it is now ordered that any Stile-keeper failing to put the money received for entrance into his box as the person paying passes through, will be liable to dismissal from the force. No excuse will be received for violating this order.

By order of the General Manager.

[No. 9.]

The gates will be kept open on Saturday next, 10th inst., until 7.30 o'clock P.M.

By order of the General Manager.

June 7, 1876.

Department of Admissions. Official orders.

[No. 10.]

On the 3d, 4th, and 5th of July, such an additional number of Money gates will be opened as to make the total on Posts 2 and 3 to consist of fifteen each, and Posts 1 and 4 sixteen each, as follows:

No. 1. Stile numbers 88, 89, 92, 93, 94, 95, 99, 102, 104, 105, 106, 1, 2, 3, 4, 6.
No. 2. " " 7, 8, 9, 10, 13, 15, 18, 19, 20, 22, 23, 26, 27, 28, 29.
No. 3. " " 30, 31, 32, 33, 34, 35, 38, 39, 41, 42, 43, 45, 46, 47, 48.
No. 4. " " 49, 54, 57, 58, 59, 60, 61, 62, 65, 67, 69, 73, 75, 78, 80, 83.

Stile-keepers will be relieved after 12 o'clock M. if circumstances shall warrant; but in no case more than five of a group at one time, or for more than one hour.

By order of the General Manager.

June 28, 1876.

[No. 11.]

Complimentary and Exhibitors' gates will hereafter be consolidated to the extent that Complimentary and Exhibitors' tickets will be received at either.

By order of the General Manager.

July 23, 1876.

[No. 12.]

On and after August 1 proximo, turnstile No. 77 (Belmont entrance) will be open at 6.45 o'clock A.M. Workmen's passes and coupon tickets will be received at this gate until further orders.

By order of the General Manager.

July 31, 1876.

[No. 13.]

The following orders will be observed for Thursday next, September 28, "Pennsylvania Day:"

1st. Money Posts will be arranged as follows, and will be in charge of Inspectors who would occupy such posts according to regular schedule.

Post 1. Turnstiles 87, 88, 89, 92, 93, 94, 95, 99, 100, 101, 102, 104, 105, 106, 7, 8.
Post 2. " 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 22, 23, 24, 26, 27, 28.
Post 3. " 31, 32, 33, 34, 37, 38, 39, 41, 42, 43, 45, 46, 47, 48, 49, 50.
Post 4. " 51, 52, 53, 54, 59, 60, 61, 62, 63, 64, 65, 69, 71, 73, 78, 83.

2d. Exhibitors' and Complimentary gates will be consolidated in two posts, as follows:

Post 1. Turnstiles 90, 91, 98, 103, 6, 16, 21, 25, 40, 44.
Post 2. " 55, 56, 57, 58, 66, 70, 74, 77, 84.

3d. Money gates will be opened promptly at 7½ o'clock, Exhibitors' and Complimentary gates at the usual hour. Men detailed from Exhibitor and Complimentary groups to Money groups will be relieved at 1 o'clock P.M., and will report to the office at 2 o'clock P.M. for assignment to duty for the balance of the day. Men on Money gates other than those above referred to will be relieved as circumstances shall warrant. Such number as may be necessary will remain on duty until 8 o'clock P.M. Money gates 45, 46, 64, 66, 73, 78, 89, and 104, and Exhibitors' and Complimentary gates 44, 65, 74, 77, 90, and 103 will be kept open until that hour.

4th. Wagon gates H, M, S, and T will be opened for the admission of schools, and gate A for other organized bodies, and will be in charge of men to be detailed for the purpose.

5th. Details for the day will be announced in a special order.

By order of the General Manager.

September 26, 1876.

EXHIBIT C.

RULES GOVERNING THE DEPARTMENT.

Department of Admissions. Official rules.

[No. 1.]

Rules governing the application and delivery of Exhibitors' and Attendants' Passes during the Exhibition:

Application for *Passes* must be made through the different *Bureaus of Administration* to the *Director-General*, who, after approving the same, will authorize their issue by this Department.

When *Passes* are ready for delivery, the *Director-General*, or his *authorized Clerk*, will receive them, and forward to the different *Chiefs of Bureaus*, who will distribute them to Exhibitors, taking receipt therefor.

1. Each *application number* representing an *Exhibit* will be entitled to *One Pass*, provided such *Exhibit* requires the exhibitor's presence.

2. When an *Agent* is employed to take charge of one or more *Exhibits*, he shall receive *One Pass only*, and the *Principal* will *not* be entitled to a *Pass*.

3. Such *Attendants* as are required regularly for the care of *Exhibits* will be entitled to *free Passes*.

These regulations do not *permit* the issuing of PASSES to VISITORS.

DAVID G. YATES, *General Manager*.

Approved, A. T. GOSHORN, *Director-General*.

[No. 2.]

MALT LIQUORS AND AERATED WATER TAX.

Tax will be levied on Domestic Malt Liquors, in Bottles or Bulk, of 10 Cents per gallon.

Foreign Malt Liquors, in Bulk, 10 Cents per gallon.

Foreign Malt Liquors, in Bottles, Free.

Aerated Waters, *Artificial*, including Seltzer, Kissengen, Congress, etc., 20 Cents per gallon.

Tonic, Spruce, Weiss, and Root Beer, Ginger Ale, etc., 20 Cents per gallon.

Aerated Waters, *Natural*, Free.

20 Dozen Pints—equal to One Barrel.

10 Dozen Quarts—equal to One Barrel.

DAVID G. YATES, *General Manager*.

[No. 3.]

CASH TURNSTILES.

The following Rules are specially applicable to this class of Gates:

1st. Admission, 50 Cents, United States money.

2d. Children, same admission charge as Adults.

3d. Admission fee to be deposited in cash-box before visitor is allowed to pass through the turnstile.

Department of Admissions. Official rules.

4th. Counterfeit money, or deficiency in cash, to be made good by Turnstile-keeper.

5th. When relieved the Turnstile-keeper to deposit his cash-box with the Centennial National Bank.

6th. Turnstile-keepers will be polite and courteous to visitors, and in all cases, if the genuineness of a note or coin offered for admission be doubted, refuse the same (without pronouncing it counterfeit), and, avoiding any discussion of the question whatever, request the person offering it to produce another or pass out of the gate provided for such cases.

7th. The men composing the several groups will report promptly at the hour and place designated by their Inspector for the second tour.

By order of the General Manager.

[No. 4.]

COMPLIMENTARY TURNSTILES.

The following Rules are specially applicable to this class of Gates:

1st. None but holders of Complimentary tickets admitted at these gates.

2d. No person to be permitted to pass through the turnstile without exhibiting Complimentary ticket.

3d. The holder must comply with the printed contract on the back of ticket.

4th. If presented by any other than the proper person the ticket to be taken up.

5th. The men composing the several groups will report promptly at the hour and place designated by their Inspector for the second tour.

By order of the General Manager.

[No. 5.]

EXHIBITORS' AND ATTENDANTS' TURNSTILES.

The following Rules are specially applicable to this class of Gates:

1st. None but holders of Photograph tickets admitted at these gates.

2d. No person to be permitted to pass through the turnstile without first presenting their Photograph ticket and have the printed date punched out.

3d. If presented by any other than the proper person the ticket to be taken up.

4th. The men composing the several groups will report promptly at the hour and place designated by their Inspector for the second tour.

By order of the General Manager.

[No. 6.]

WAGON GATES.

The following Rules are specially applicable to this class of Gates:

1st. These gates will be open from 4 o'clock to 8 o'clock A.M. for the delivery of supplies, and from 7 o'clock to 9 o'clock P.M. for the removal of waste.

2d. No wagon will be admitted but those absolutely required within the inclosure.

3d. No person but the driver to be allowed to enter with wagon (except by special permit), and on no account will the driver be allowed to leave his wagon while within the inclosure.

By order of the General Manager.

Department of Admissions. Official rules.

[No. 7.]

Smoking in the offices or by the men connected with this Department when on duty is prohibited.

By order of the General Manager.

[No. 8.]

The men detailed for duty at Complimentary and Exhibitor gates will report promptly at 6½ o'clock A.M. to their Inspector.

By order of the General Manager.

[No. 9.]

In posting their men, Inspectors will be careful not to use turnstiles which are indicated by the Superintendent of Turnstiles as being out of order, but will use the next or nearest number.

By order of the General Manager.

[No. 10.]

Inspectors will be required to report the state of the daily roll-call, noting names of absentees, if any, and making a similar statement on daily report.

By order of the General Manager.

[No. 11.]

Special turnstile No. 55 is open for Police Guard and Firemen. Each one passing through must deposit a ticket signed by the General Manager of this Department, and countersigned by the Colonel commanding Guard or the Director of the Centennial Fire Department.

By order of the General Manager.

[No. 12.]

Inspectors of Money groups will report to the Chief Inspector immediately before going on duty morning and afternoon the number of boxes intended to be used by their respective groups.

The men at Exhibitors' and Complimentary gates will note on passes or tickets taken up the reason in brief for so doing, and hand them to the Inspector on duty, who will at the close of the day make return to the office.

By order of the General Manager.

[No. 13.]

Inspectors will report as early as possible after posting men every morning all registers not at zero.

By order of the General Manager.

Department of Admissions. Official rules.

[No. 14.]

Keys of turnstiles will be handed by Turnstile-keepers at the close of the day to the Inspector of groups to which they are attached, and the Inspector will, before leaving, see that they are all returned and placed where they belong. Inspectors will be held responsible for any keys lost or mislaid.

By order of the General Manager.

[No. 15.]

Inspectors will report every morning and afternoon the exact time that money exchange offices on the line of their posts are opened and closed.

By order of the General Manager.

[No. 16.]

Inspectors of Exhibitor and Complimentary groups will instruct their men that any Turnstile-keeper who shall punch the wrong date from a ticket on passing the holder will be liable to dismissal.

By order of the General Manager.

[No. 17.]

Inspectors of Exhibitor and Complimentary groups who may be detailed for duty on Post 3 in the morning will post a man at stile No. 55 at 6 o'clock A.M., and be careful to see that he is properly instructed as to his duty.

By order of the General Manager.

[No. 18.]

Inspectors will on Saturdays of each week make a careful inspection of the uniforms of the men of their several groups, and make a minute report in detail of the condition of the same early thereafter.

By order of the General Manager.

[No. 19.]

Stile-keepers will be divided into "Groups," each group to be designated by letter, and will be in charge of an Inspector.

Groups will be known as "Money," "Complimentary," "Exhibitor," and "Wagon." Attendants will enter by Exhibitors' gates.

Money Groups A, B, C, D, E, F, thirteen men each and one Inspector.

Complimentary Groups A, B, C, six men each, to be posted by Inspectors to be assigned daily.

Exhibitors' Groups A, B, C, nine men each and four Inspectors, one of whom will assist as occasion may require by direction of the Chief.

Wagon Group, eleven men and one Inspector.

A roll will be kept by each Inspector in a book provided for the purpose. Posts will be arranged as follows:

Department of Admissions. Official rules.

Money Posts will be numbered from 1 to 5 as follows:
No. 1. Stile numbers 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17.
No. 2. " " 18, 23, 24, 25, 26, 27, 29, 30, 31, 32, 34, 35, 36.
No. 3. " " 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 50, 51.
No. 4. " " 52, 53, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65.
No. 5. " " 71, 72, 78, 87, 88, 91, 92, 93, 94, 97, 98, 99, 2.
Complimentary Posts:
No. 1. Stile numbers 54, 66, 77.
No. 2. " " 100, 5, 16.
Exhibitors' Posts:
No. 1. Stile numbers 89, 90, 95, 96, 101, 102, 1, 19, 20.
No. 2. " " 21, 22, 28, 33, 37, 49, 73, 74, 79.

Inspectors will be notified by "Bulletin," posted in the Chief Inspector's office, in advance of their respective tours of duty, and furnished daily with a duty slip; they will be held responsible for the prompt attendance of the men composing the respective groups half an hour in advance of the time named for duty.

Before posting his men each Inspector will call his roll and report absentees, and as soon as posted report number of stiles occupied by each one of his group.

By order of the General Manager.

May 6, 1876.

[No. 20.]

RULES GOVERNING ADMISSION TO THE LIVE-STOCK EXHIBITION.

"GENERAL PUBLIC."

The fee for admission shall be a Twenty-five Cent United States note or silver piece, or for two admissions, Fifty Cents.

"EXHIBITORS AND THEIR EMPLOYEES."

1st. Each Exhibitor will be entitled to one pass for the time of said Exhibit. This ticket will also entitle the holder to admission to the "Main Exhibition."

2d. Such Employees or Attendants as are actually required by the Exhibitors will be entitled to free passes, which will admit them only to the Live-Stock Grounds.

3d. Exhibitors' and Attendants' tickets of Main Exhibition will not be good at the Live-Stock Exhibition.

4th. Complimentary and Press tickets good at both places.

EXHIBIT D.

Department of
Admissions.
Official forms.

APPLICATION NO. [FORM NO. 1.]

APPLICATION FOR PASSES. EXHIBITOR. U. S. SECTION.

....1876.

To A. T. GOSHORN, *Director-General:*

SIR,—The following-named person is entitled to a Pass under the rules adopted by the United States Centennial Commission and Board of Finance.

Respectfully,

....

Chief of Bureau.

NAME.	PERIOD FOR WHICH PASS IS DESIRED.		REMARKS.

To DAVID G. YATES, *General Manager Department of Admissions.*

Please issue the above Pass.

....

Director-General.

By..

APPLICATION NO. [FORM NO. 2.]

APPLICATION FOR PASSES. EXHIBITOR. FOREIGN SECTION.

NAME OF COUNTRY.

....1876.

To A. T. GOSHORN, *Director-General:*

SIR,—The following-named person is entitled to a Pass under the rules adopted by the United States Centennial Commission and Board of Finance.

Respectfully,

....

Commissioner.

NAME.	PERIOD FOR WHICH PASS IS DESIRED.		REMARKS.

To DAVID G. YATES, *General Manager Department of Admissions.*

Please issue the above Pass.

....

Director-General.

By..

Department of Admissions. Official forms.

APPLICATION No. [FORM No. 3.]

APPLICATION FOR PASSES. ATTENDANTS. U. S. SECTION.

....1876.

To A. T. GOSHORN, *Director-General:*

SIR,—The following-named persons are entitled to Passes under the rules adopted by the United States Centennial Commission and Board of Finance.

Respectfully,

....
Chief of Bureau.

Name and Address of Exhibitor,..

Purpose for which Attendance is required,..

Names and Address of Attendants,..

To DAVID G. YATES, *General Manager Department of Admissions.*

Please issue the above Passes.

....
Director-General.

....

APPLICATION No. [FORM No. 4.]

APPLICATION FOR PASSES. ATTENDANTS. FOREIGN SECTION.

....1876.

To A. T. GOSHORN, *Director-General:*

SIR,—The following-named persons are entitled to Passes under the rules adopted by the United States Centennial Commission and Board of Finance.

Respectfully,

....
Commissioner.

Name and Address of Exhibitor,..

Purpose for which Attendance is required,..

Names and Address of Attendants,..

To DAVID G. YATES, *General Manager Department of Admissions.*

Please issue the above Passes.

....
Director-General.

By..

Department of Admissions. Official forms.

APPLICATION NO. [FORM No. 5.]

PASSES FOR SPECIAL AND TEMPORARY PURPOSES ONLY.

APPLICATION FOR PASSES.
(To be filled in by Applicant.)

DATE OF APPLICATION.	NAME OF APPLICANT.	ADDRESS OF APPLICANT.	NO. OF PASSES REQUIRED.	PERIOD FOR WHICH PASSES ARE REQUIRED.

(Here state special grounds for application.)

I recommend that the above Passes be issued for..days

commencing..

Dated this............*day of*...........................1876.

....

Passes Issued............*day of*...........................1876.

[FORM No. 6.]

REQUISITION FOR WORKMAN'S PASS.

No..............

To ....

Account of..................................

....

Date.......................................

No............. DAVID G. YATES, *Gen'l Manager.*

Department of Admissions
will please issue WORKMAN'S PASS

to..

Account of..

Date,...*1876.*

....

Ch. Bureau of...

INSPECTOR'S STUB AND DEPOSIT SLIP.

Turnstile No.............

Time on...... *Time off*......

Register No........................

Correct,...............................

TURNSTILE KEEPER.

...................................*1876.*

Form No. 7.

INTERNATIONAL EXHIBITION.

Philadelphia,....................................1876.

Turnstile No...........................

Register No...........................

....
Inspector.

Department of Admissions. Official forms.

[Form No. 8.]

INSPECTORS' DAILY REPORT OF TURNSTILE REGISTERS TO CHIEF INSPECTOR.

.... 1876.

No. of Turnstile.	Name of Keeper.	Time on.	Time off.	Complimentary Admissions.	Exhibitors' and Attendants' Admissions.	Cash Admissions.	Remarks.

....

Inspector.

[Form No. 9.]

DAILY REPORT OF CHIEF INSPECTOR TO GENERAL MANAGER.

.... 1876.

No. of Turnstile.	Name of Keeper.	Name of Inspector.	Time on.	Time off.	Complimentary Admissions.	Exhibitors' and Attendants' Admissions.	Cash Admissions.	Remarks.

....

Chief Inspector.

[Form No. 10.]

DAILY REPORT OF GENERAL MANAGER.

.... 1876.

No. of Turnstile.	Name of Keeper.	Time on.	Time off.	Character of Turnstile.	Turnstile Register.	Office Register.	No. of Complimentary Admissions.	No. of Exhibitors' and Attendants' Admissions.	No. of Cash Admissions.	Amount at 50 Cts. Each.	Amount in Cash Box.	Difference.

Total Number of Admissions,
" " Complimentary Admissions,
" " Exhibitors' and Attendants' Admissions,
" " Cash Admissions,
" Amount at 50 Cents each,
" " in Cash Boxes,
" " of Difference,
Weather Report.

....

General Manager of Admissions.

Department of Admissions. Official forms.

[Form No. 11.]

WEEKLY REPORT TO TREASURER.

Statement of Daily Admissions for Week ending..

Day of Month.	Day of Week.	Complimentary.	Exhibitors and Attendants.	Cash.	Amount.
	Monday,				
	Tuesday,				
	Wednesday,				
	Thursday,				
	Friday,				
	Saturday,				
Total Complimentary,					
Total Exhibitors and Attendants,					
Total Cash,					
Total Admissions for Week,			Total Amount of Cash Rec'd, $		

....

General Manager, Dep't Admissions.

[Form No. 12.]

DAILY DETAIL.—CASH TURNSTILES.

....

Day.	Date.	Group.	On Duty.			
			Time.	Post.	Time.	Post.

Inspector..

Assistant..

[Form No. 13.]

DAILY DETAIL.—EXHIBITORS' AND ATTENDANTS' TURNSTILES.

....

Day.	Date.	Group.	On Duty.			
			Time.	Post.	Time.	Post.

Inspector..

Assistant..

Department of
Admissions.
Official forms.

[Form No. 14.]

DAILY DETAIL.—COMPLIMENTARY TURNSTILES.

....

Day.	Date.	Group.	ON DUTY.			
			Time.	Post.	Time.	Post.

Inspector..

Assistant..

[Form No. 15.]

DAILY REPORT OF SALES.—BEER, ALE, AND MINERAL WATER TAX STAMPS.

.... 1876.

Name.	BEER.			ALE.			MINERAL WATER.		Beer Money.	Ale Money.	Mineral Water Money.
	Whole.	Halves.	Quarters.	Whole.	Halves.	Quarters.	Gallons in Tankard.	Gallons in Siphon.			
Total Beer,											
" Ale,											
" Mineral [Water,											
Grand Total,											

Department of Admissions. Official forms.

[FORM No. 16.]

WEEKLY REPORT TO TREASURER.

Statement of Daily Admissions for Week ending Saturday,..........................1876.

DATE.		Complimentary.		Exhib. & Attend'ts.		CASH.			AMOUNT.
DAY OF MONTH.	DAY OF WEEK.	LIVE-STOCK EXHIBITION.	MAIN EXHIBITION.	LIVE-STOCK EXHIBITION.	MAIN EXHIBITION.	LIVE-STOCK EXHIBITION.	MAIN EXHIBITION.		
						25 Cts.	50 Cts.	25 Cts.	
	Monday,								
	Tuesday,								
	Wednesday,								
	Thursday,								
	Friday,								
	Saturday,								
Total Complimentary..........................									
" Exhibitors and Attendants..................................									
" Cash..									
Total Amount of Cash Received...................									
" Admissions for Week...									
Counterfeits...									
Mutilated......									
Net Amount deposited in the Centennial National Bank.........									

....

General Manager Dep't of Admissions.

[FORM No. 17.]

....1876.

OFFICIAL BULLETIN.

MONEY ADMISSIONS.

STATE OF REGISTERS.

1 O'CLOCK.

Post No. 1,...
" " 2,...
" " 3,...
" " 4,...
" " ....

Live-Stock,...

Total,

To DAVID G. YATES, *General Manager.*

....

Chief Clerk.

Department of Admissions. Official forms

[FORM No. 18.]

DAILY REPORT OF CASH ADMISSIONS.

....1876.

Complimentary..................................			
Exhibitors and Attendants........................			
Cash @ 50 Cents........ @ 25 Cents........			
Total number of Admissions....................			
Counterfeits................			
Net amount deposited in the Centennial National Bank....................................			

To DAVID G. YATES, *General Manager.*

....

Chief Clerk.

[FORM No. 19.]

DAILY REPORT OF CASH ADMISSIONS.

....

Complimentary Main Exhibition.................. Live-Stock Exhibition..........			
Exhibitors and Attendants. Main Exhibition.................. Live-Stock Exhibition..........			
Cash Main Exhibition @ 50 Cents " " @ 25 " Live-Stock " @ 25 "			
Total number of Admissions..			
Counterfeits and mutilated...			
Net amount deposited in the Centennial National Bank..			

To DAVID G. YATES, *General Manager.*

....

Chief Clerk.

Department of Admissions.
Official forms.

[Form No. 20.]

DAILY REPORT OF TOTAL ADMISSIONS.

....1876.

Cash..		
Complimentary..		
Exhibitors, Attendants, and Press..		
Workmen..		
Guard..		
Firemen..		
Return Pass Checks..		
Total..		

To DAVID G. YATES, *General Manager.*

....
Chief Clerk.

[Form No. 21.]

RECORD OF ADMISSIONS OTHER THAN CASH.

Inspector.	Stile-Keeper.	No. Punch.	No. Stile.	Time on.	Complimentary.	Return Checks.	Special Press.	Workmen.	Guards.	Firemen.	Others.	Punch Register.	Total.	Stile Register.	Difference.		Remarks.
															Over.	Short.	

To DAVID G. YATES, *General Manager.*

....
Chief Clerk.

[Form No. 22.]

STOP NOTICE.

....1876.

To..
Chief Inspector.

Place on Stop-list the following numbered tickets until further notice:

By order of

....
General Manager Dept. of Admissions.

Department of Admissions. Official forms.

[Form No. 23.]

WITHDRAWAL NOTICE.

……………………………… 1876.

To………………………………

Chief Inspector.

Withdraw from Stop-list the following numbered tickets:

By order of

………………………………

General Manager Dept. of Admissions.

[Form No. 24.]

STOP-LIST.

Below 1000	1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m	21m	22m	23m	24m

[Form No. 25.]

DAILY TOURS, TURNSTILE-KEEPERS.

………………………………

Date,………………………………	FIRST TOUR.		SECOND TOUR.	
Group,………………………………	*Post*…………	*Time.* …………	*Post*…………	*Time.* …………
Keepers,…………………	*Turnstile.*	*Box.*	*Turnstile.*	*Box.*

………………………………

Inspector.

[Form No. 26.]

INSPECTORS' TIME AND REGISTRY BOOK.

Stile-Keeper.	Roll Call.	Time on.	Station.	Time off.	State of Register.	Roll-call.	Time on.	Station.	Time off.	State of Register.	Remarks.

Department of Admissions. Official forms.

[FORM No. 27.]

WAGON GATE KEEPER'S RECORD BOOK.

WAGON GATE KEEPER.	ROLL CALL.	TIME ON.	STATION.	TIME OFF.	RECEIVED.		DISCHARGED.		REMARKS
					BARRELS MALT LIQUOR.	FOUNTAINS AERATED WATER.	BARRELS MALT LIQUOR.	FOUNTAINS AERATED WATER.	

[FORM No. 28.]

Know all Men by these Presents, THAT WE,

....

....

....

are held and firmly bound unto the "Centennial Board of Finance," Incorporated by Act of Congress, approved June 1, 1872, in the sum of Twenty-five Hundred Dollars, lawful money of the United States of America, to be paid to the said Centennial Board of Finance, their certain attorney, successors and assigns, to which payment, well and truly to be made, we and each of us, our and each of our heirs, executors and administrators, and each and every of them, are held and firmly bound by these presents, sealed with our respective seals, dated..................................day of..........................A. D. 1876.

Whereas, the above-named...

....

has been appointed under the general manager of Department of Admission of the Centennial Exhibition one of the turnstile-keepers, and as such may be required to handle admission or entrance money, etc.

And whereas, it has been deemed desirable that each of said employees or appointees shall give bond in the above-mentioned sum, together with some person acceptable to the Centennial Board of Finance, uniting therein, for the true and faithful performance of such official duties as may appertain to said office, appointee or appointment.

And whereas, the said...who is acceptable to said Centennial Board of Finance, hath consented and agreed, in consideration of the premises, to unite in said Bond,

Now the condition of this obligation is such that if the said above bounden...........................

....shall and will at all times while in said position of and as turnstile-keeper, faithfully do and perform all the duties thereof, and well and truly account for and immediately deliver over to said Centennial Board of Finance, or as he may be by them from time to time directed, all moneys by him received as said turnstile-keeper, or as he may otherwise receive as said employee. And shall and will upon the happening of any

Department of Admissions. Official forms.

or all loss or losses caused by or through his negligence, want of care, taking counterfeit money or failure to properly account for and deliver over as aforesaid, forthwith pay and make the same good to the said Centennial Board of Finance, their successors or assigns, all and every such amount or amounts thus not accounted for or delivered over as aforesaid, without any fraud or further delay, then the above obligation to be void, or else to be and remain in full force and virtue.

Sealed and delivered
in the presence of }

...., [SEAL.]

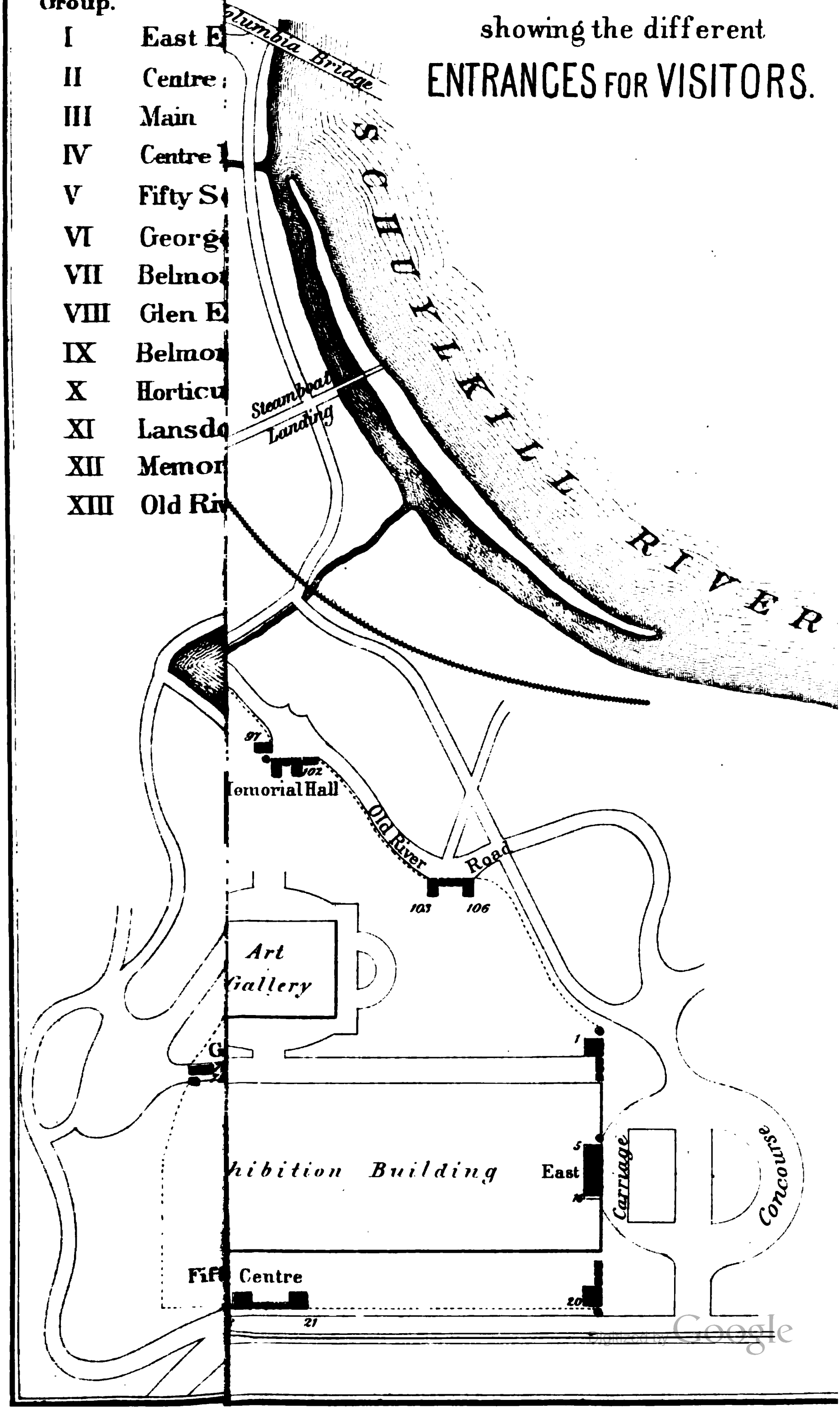
...., [SEAL.]

COMPARATIVE TABLE OF THE ADMISSIONS AND RECEIPTS AT THE SIX GREAT INTERNATIONAL EXHIBITIONS.

DATE.	WHERE HELD.	Number of Exhibition Days.	Total Admissions.	Total Receipts from Admissions.	Average Daily Admissions.	Average Daily Receipts from Admissions.	Largest Number of Admissions for any One Day.	Smallest Number of Admissions for any One Day.	REMARKS.
1851	London....................	141	6,039,195	$2,051,143.28	42,831	$12,332.32	109,915	9,327	Taken from Catalogue of British Section, Paris Exposition, 1867.
1855	Paris........................	200	5,162,330	$620,001.09	25,811	$3,131.48	123,017	....	Official Report of Paris Exposition.
1862	London....................	171	6,211,130	$1,977,285.60	36,328	$9,360.56	67,891	5,615	Taken from Catalogue of British Section, Paris Exposition, 1867.
1867	Paris........................	214	8,706,037	$1,903,155.65	40,682	$8,893.44	184,405	1,602	Official Report of Paris Exposition.
1873	Vienna.....................	186	7,254,687	$964,216.90	39,003	$5,183.96	139,000	....	Taken from Prof. Blake's Report on United States Section.
1876	Philadelphia...........	159	9,910,966	$3,813,724.49	62,333	$23,985.69	274,919	12,720	

Plan
showing the different
ENTRANCES FOR VISITORS.

Group.	
I	East E
II	Centre
III	Main
IV	Centre
V	Fifty S
VI	Georg
VII	Belmo
VIII	Glen E
IX	Belmo
X	Horticu
XI	Lansd
XII	Memor
XIII	Old Ri



DEPARTMENT OF ADMISSIONS.

INVITATIONS, CARDS, TICKETS, AND TAX STAMPS, REDUCED ONE-HALF ORIGINAL SIZE.

Invitation to opening ceremony.

The United States Centennial Commission
respectfully invite you to be present at
the opening of
The International Exhibition
of 1876.
on the 10th of May, at Fairmount Park,
Philadelphia.

To ______________________

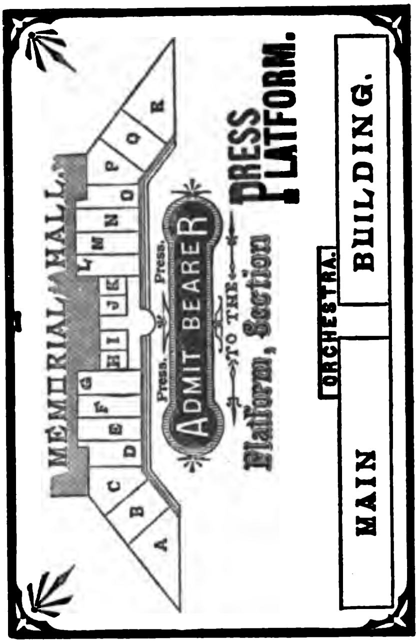
____

____

Philadelphia. March 1st 1876.

Department of Admissions.

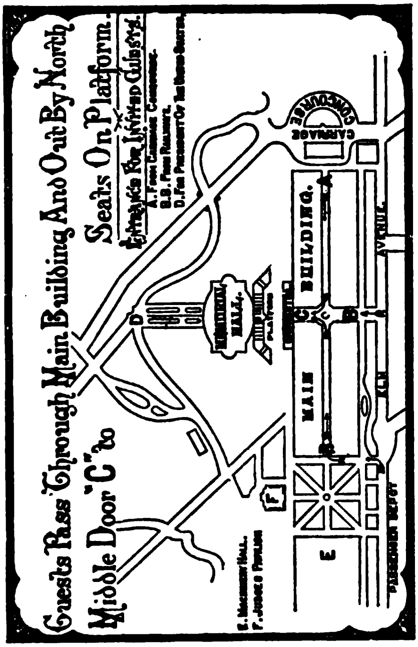
Programme to opening ceremony, showing both sides of card.



Assignment of Seats on the Platform.

Doors of Main Building open at 9 A. M.
It is desired that guests be seated before 10-15 A. M.

	SECTION.
The President of the United States and the Cabinet.	I
The Supreme Court of the United States, .	J
The Diplomatic Corps, ...	J and K
The Senate of the United States, ...	I and H
The House of Representatives, ...	G
Governors of the States and their Staffs, .	F
Governor, State Officers, Supreme Court, and Legislature of Pennsylvania, . . .	E
U. S. Centennial Commission . . . . . . Board of Finance . . . . Women's Executive Committee . . . . The Foreign Commissioners . . . . . . Boards and Bureaus of Exhibition . . .	L M and N
Board of Judges of Awards, ...	R
Judges of United States Courts and Officers of United States Executive Bureaus, . .	C
Mayor, City Councils, and City Departments of Philadelphia, ...	O and N
Army and Navy—Smithsonian Institute —and Naval Observatory, ...	D
Mayors of Cities	P
State Centennial Boards, ...	Q
Women's Centennial Committee	A B and C
Foreign Consuls, ...	O
The Press:—Seats in front of the centre.	
Yacht, and Rowing, Regatta, and Rifle Committees.	P


Guests Pass Through Main Building And Out By North Middle Door "C" to Seats On Platform.
Entrances For Invited Guests.
A. From Carriage Concourse.
B.B. From Railways.
D. For President Of The United States.
CARRIAGE CONCOURSE
MEMORIAL HALL.
PLATFORM
MAIN BUILDING.
AVENUE
ELM
PASSENGER DEPOT
A
B
C
D
E
F
E. Machinery Hall.
F. Judges Pavilion.

1776.—International Exhibition.—1876.

1876

PHILADELPHIA

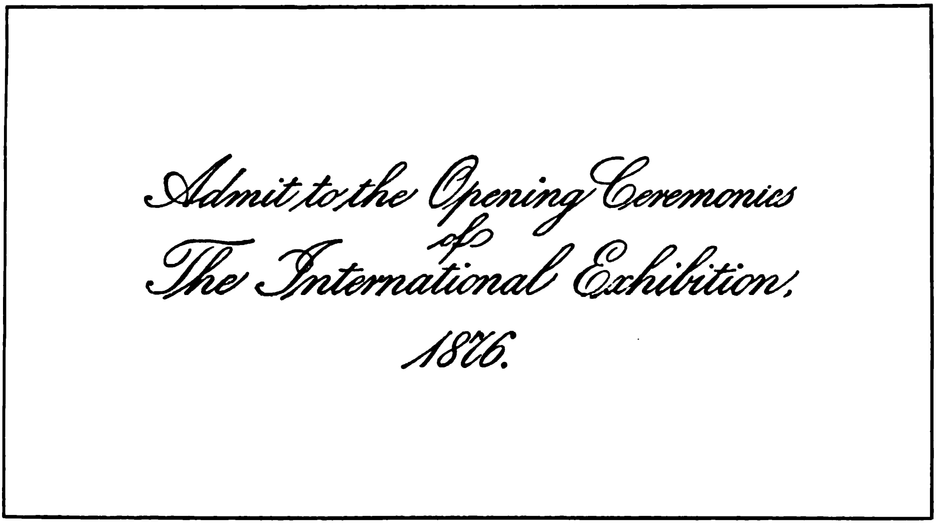
Opening Ceremonies.

Wednesday, May 10th, 10-15 A. M.

1. National Airs. Orchestra.
2. Arrival of the President of the United States.
3. Centennial Inauguration March. Wagner.
4. Prayer. Rt. Rev. Bishop Simpson.
5. Hymn by Whittier Music by John K. Paine. Chorus
6. Presentation of Buildings, President Board of Finance
7. Cantata by Sidney Lanier. Music by Dudley Buck.
8. Presentation of Exhibition, President Commission.
9. Address by the President of the United States.
10. Hallelujah Chorus.—Salutes and Chimes.
11. Procession to Main Building and Machinery Hall.
12. President's Reception, Judges' Hall.

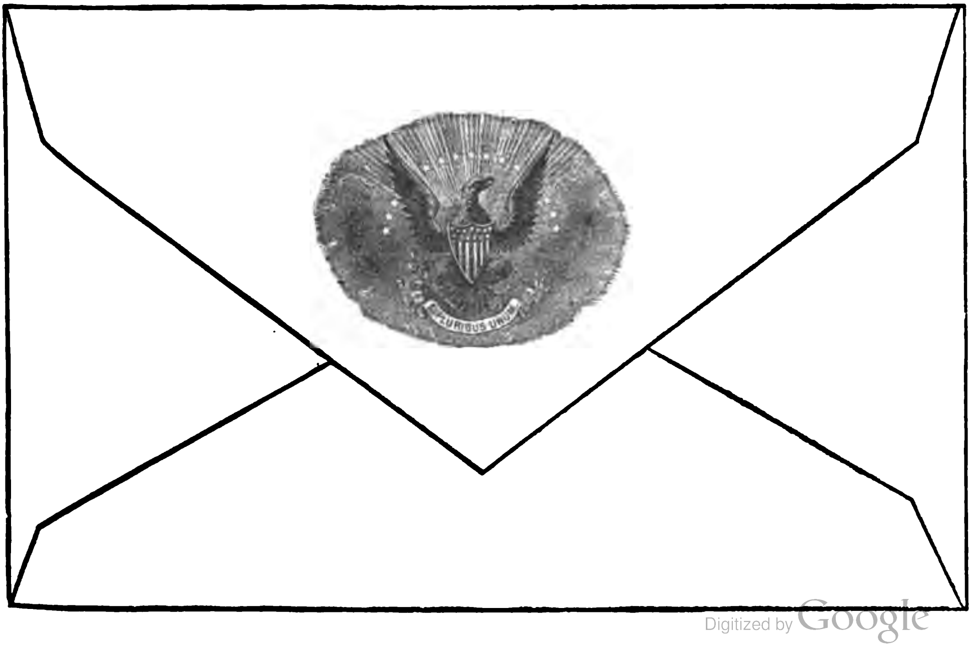
Department of Admissions.

Card accompanying invitation to opening ceremony.



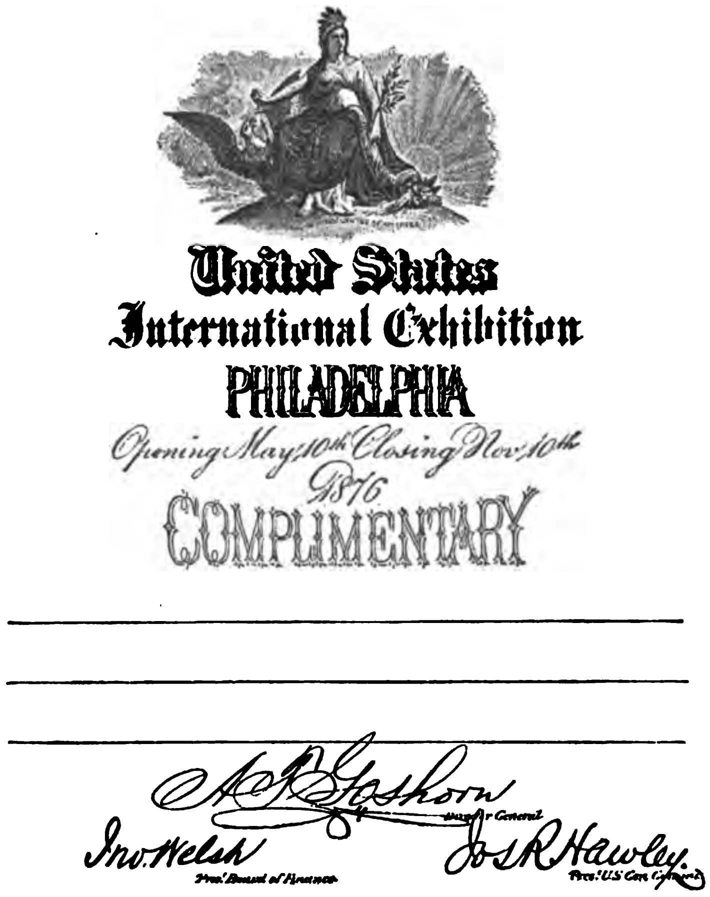
Admit to the Opening Ceremonies
of
The International Exhibition,
1876.

Envelope inclosing invitation, programme, and card to opening ceremony.



Department of Admissions.

Complimentary letter of admission for full term of the Exhibition.



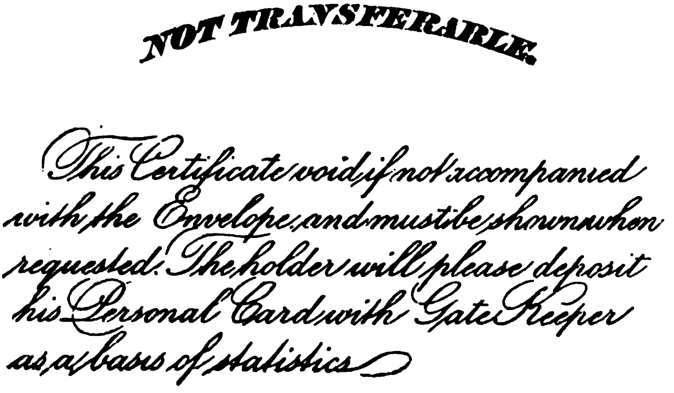
United States
International Exhibition
PHILADELPHIA
Opening May 10th Closing Nov. 10th
1876
COMPLIMENTARY

A. T. Goshorn
Director General

Jno. Welsh
Pres.' Board of Finance

Jos. R. Hawley.
Pres.' U.S. Cen. Com.

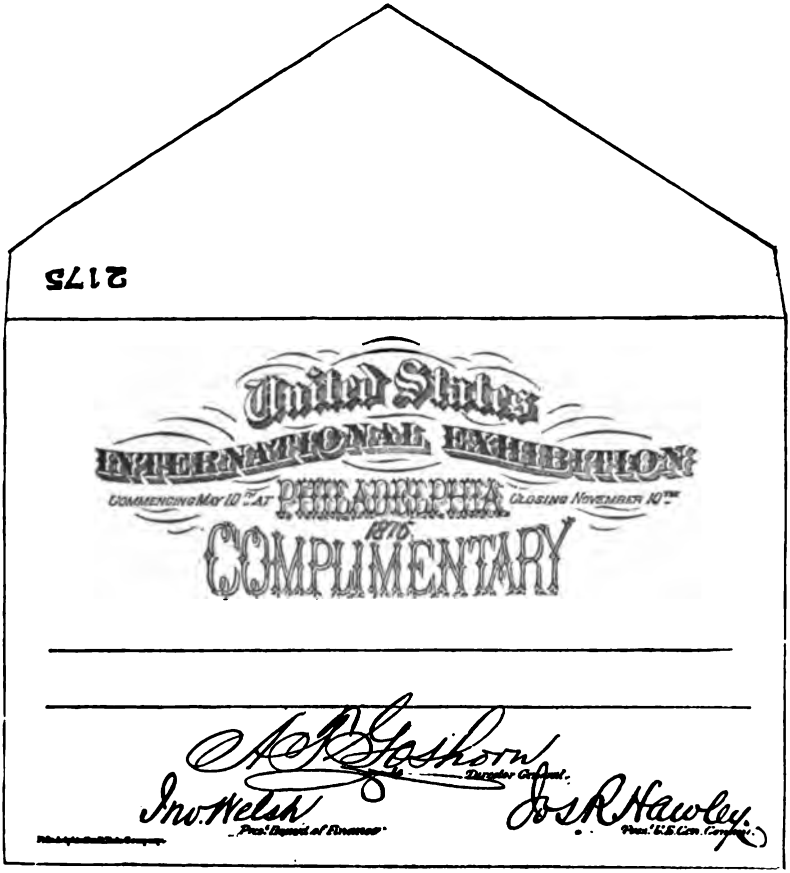
Fly-leaf of complimentary letter of admission.



NOT TRANSFERABLE.

This Certificate void, if not accompanied with the Envelope, and must be shown when requested. The holder will please deposit his Personal Card with Gate Keeper as a basis of statistics.

Department of Admissions.



2175

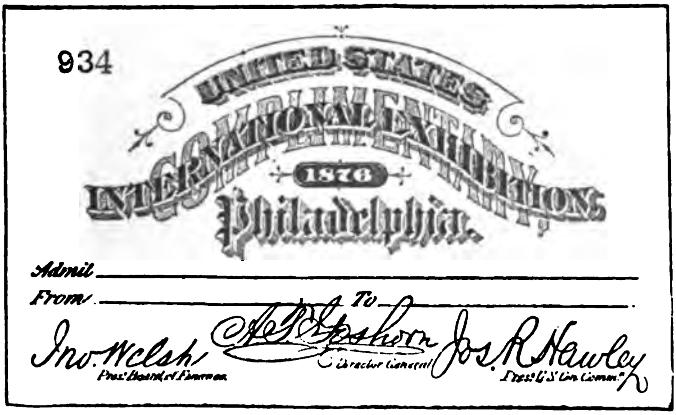
United States
INTERNATIONAL EXHIBITION
Commencing May 10th at PHILADELPHIA Closing November 10th
1876
COMPLIMENTARY

A. T. Goshorn Director General.

Jno. Welsh Pres.t Board of Finance

Jos. R. Hawley. Pres.t U.S. Cen. Comm.n

Envelope accompanying complimentary letter of admission, consecutively numbered in red



934

UNITED STATES
COMPLIMENTARY
INTERNATIONAL EXHIBITION
1876
Philadelphia.

Admit

From To

Jno. Welsh Pres.t Board of Finance

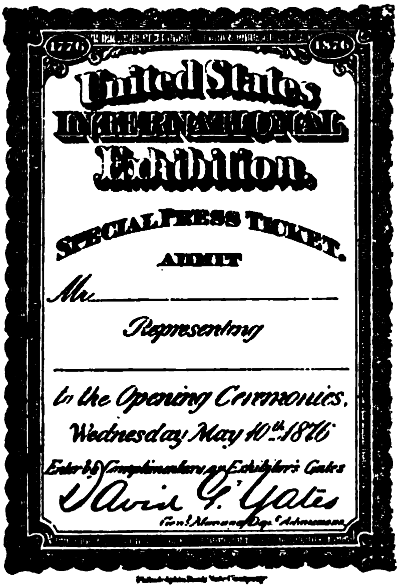
A. T. Goshorn Director General

Jos. R. Hawley Pres.t U.S. Cen. Comm.n

Short term complimentary ticket, consecutively numbered in blue.

Department of Admissions.

Special press ticket to opening ceremony, pearl-blue card.



1776 1876

United States
INTERNATIONAL
Exhibition.

SPECIAL PRESS TICKET.
ADMIT

Mr. ____________

Representing

____

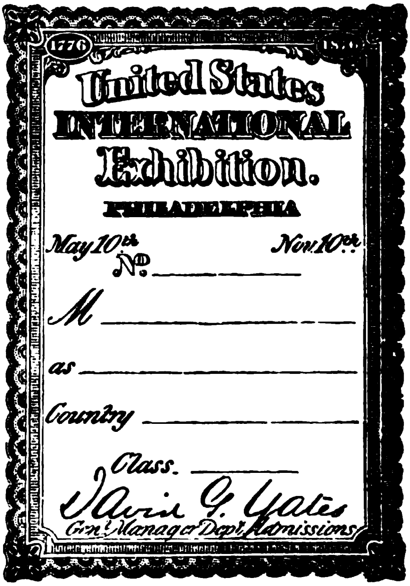
to the Opening Ceremonies.
Wednesday May 10th 1876

Enter by Complimentary or Exhibitors' Gates

David G. Yates
Gen'l Manager Dep't Admissions

Regulation photograph ticket, made of three-colored paper: outside leather color, inside yellow, lining pink; printed in black, and consecutively numbered in red.

NO DUPLICATE ISSUED IF LOST.



1776 1876

United States
INTERNATIONAL
Exhibition.
PHILADELPHIA

May 10th Nov. 10th
No. ____________

M ____________

as ____________

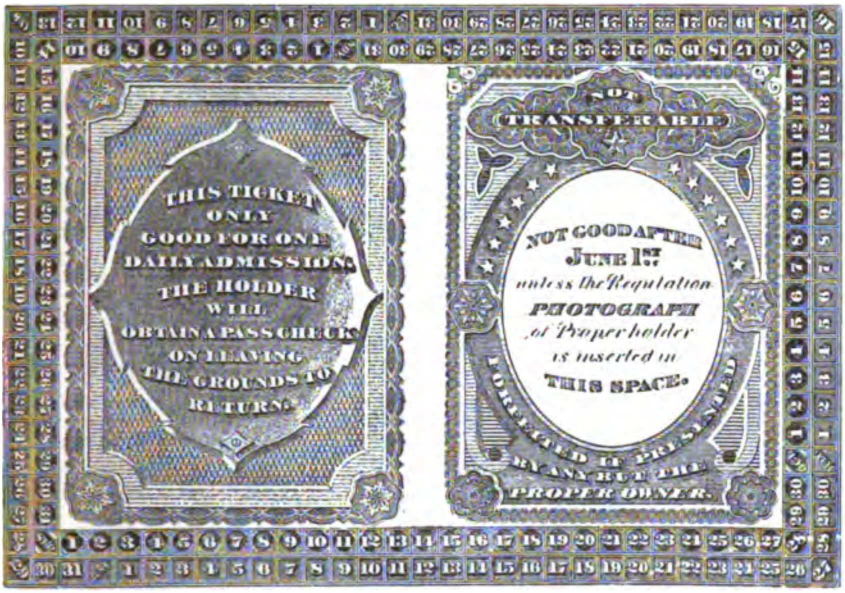
Country ____________

Class. ____________

David G. Yates
Gen'l Manager Dep't Admissions

Department of Admissions.

Inside of regulation photograph ticket.



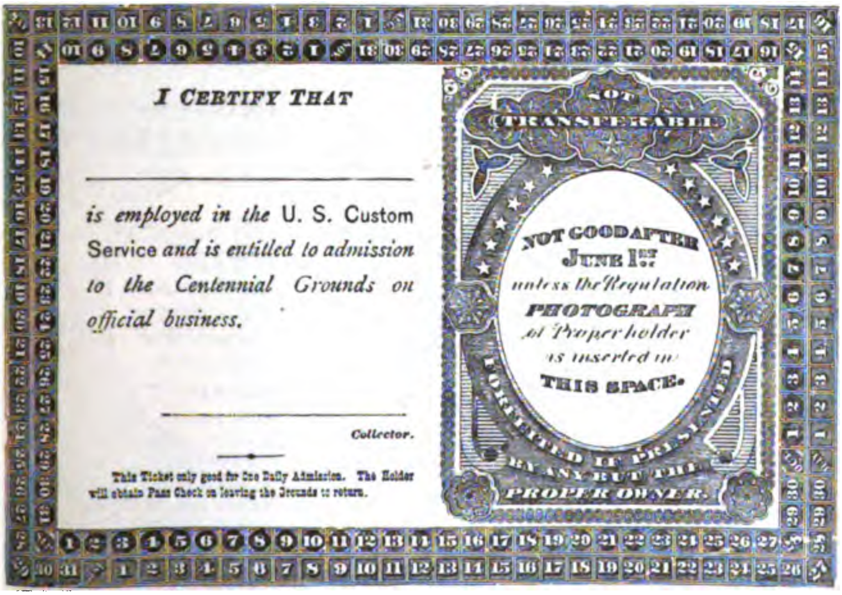
THIS TICKET ONLY GOOD FOR ONE DAILY ADMISSION. THE HOLDER WILL OBTAIN A PASS CHECK ON LEAVING THE GROUNDS TO RETURN.

NOT TRANSFERABLE

NOT GOOD AFTER JUNE 1ST unless the Regulation PHOTOGRAPH of Proper holder is inserted in THIS SPACE.

FORFEITED IF PRESENTED BY ANY BUT THE PROPER OWNER.

Inside of U. S. custom service ticket; color purple; outside same as regulation photograph ticket.



I CERTIFY THAT

is employed in the U. S. Custom Service *and is entitled to admission to the Centennial Grounds on official business.*

Collector.

This Ticket only good for One Daily Admission. The Holder will obtain Pass Check on leaving the Grounds to return.

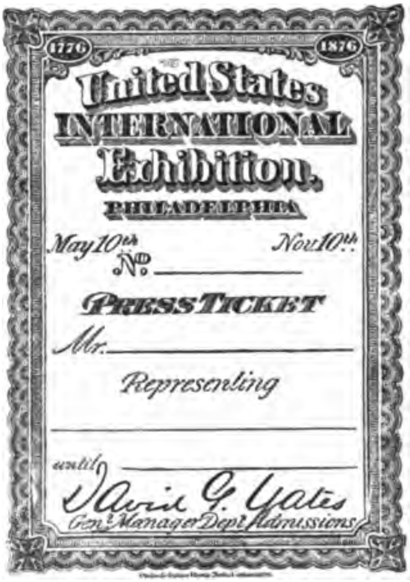
NOT TRANSFERABLE

NOT GOOD AFTER JUNE 1ST unless the Regulation PHOTOGRAPH of Proper holder is inserted in THIS SPACE.

FORFEITED IF PRESENTED BY ANY BUT THE PROPER OWNER.

Department of Admissions.

Press photograph ticket; light pearl outside, pale yellow inside.



1776 1876

United States

INTERNATIONAL

Exhibition.

PHILADELPHIA

May 10th Nov 10th

No. ____________

PRESS TICKET

Mr. ____________

Representing

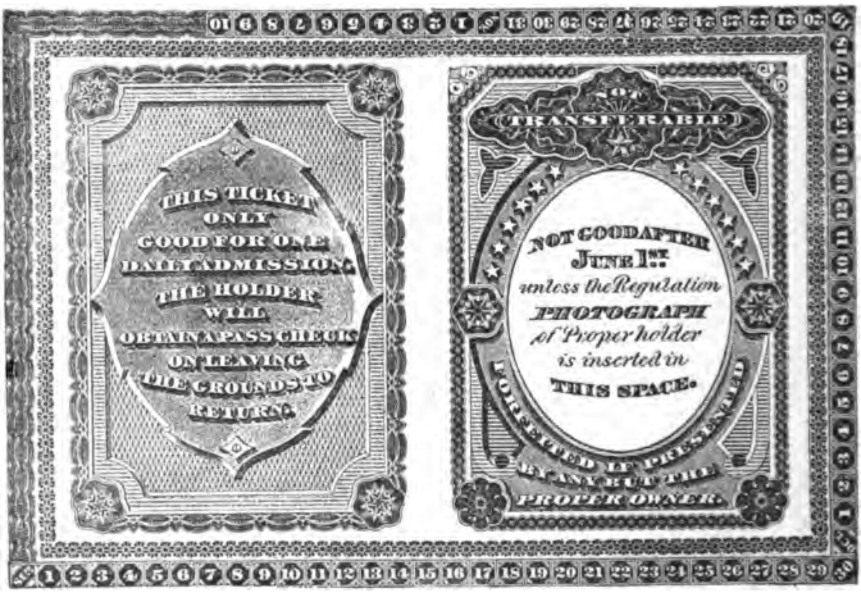
____

until ____________

David G. Yates

Genl. Manager Dept. Admissions.

Inside of live-stock ticket. Outside same as regulation photograph ticket, with live-stock "Exhibitor," and live-stock "Attendant," printed in red across the face. Color of exhibitor's ticket, outside blue, inside pink; color of attendant's ticket, outside drab, inside yellow.



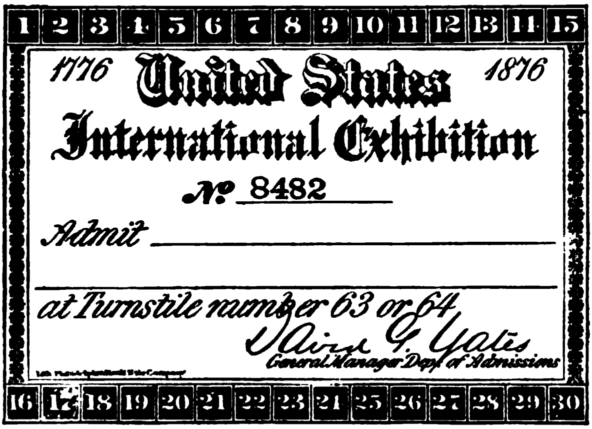
THIS TICKET ONLY GOOD FOR ONE DAILY ADMISSION. THE HOLDER WILL OBTAIN A PASS CHECK ON LEAVING THE GROUNDS TO RETURN.

NOT TRANSFERABLE

NOT GOOD AFTER JUNE 1st unless the Regulation PHOTOGRAPH of Proper holder is inserted in THIS SPACE.

FORFEITED IF PRESENTED BY ANY BUT THE PROPER OWNER.

Department of Admissions.



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

1776 United States 1876

International Exhibition

No 8482

Admit ______________________

____

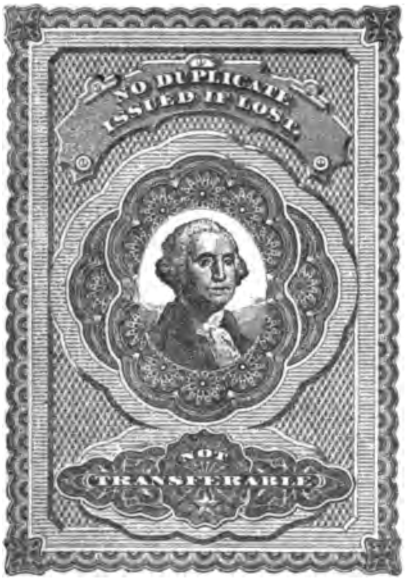
at Turnstile number 63 or 64

[illegible] G. Yates

General Manager Dep't of Admissions

16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

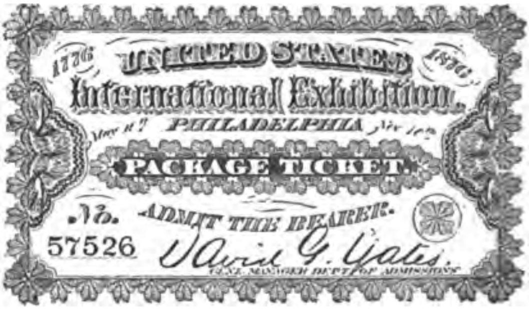
Workman's monthly ticket, consecutively numbered in red on different-colored tickets, for each month


NO DUPLICATE ISSUED IF LOST.
NOT TRANSFERABLE

Back of workman's monthly ticket.

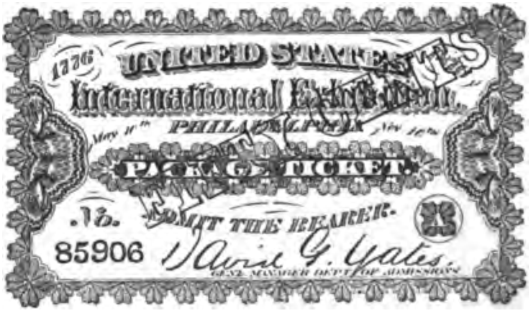
Department of Admissions.

Package ticket. First issue, white face, pink back, numbered consecutively; even numbers printed in red, odd numbers in blue.



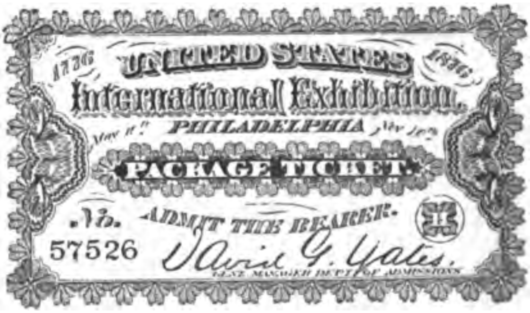
1776 UNITED STATES 1876
International Exhibition.
May 10th PHILADELPHIA Nov 10th
PACKAGE TICKET.
No. ADMIT THE BEARER.
57526 David G. Yates.
GENL. MANAGER DEPT. OF ADMISSIONS

Second issue, white face and back, letter "A" on face.



1776 UNITED STATES
International Exhibition.
May 10th PHILADELPHIA Nov 10th
PACKAGE TICKET.
No. ADMIT THE BEARER. A
85906 David G. Yates.
GENL. MANAGER DEPT. OF ADMISSIONS

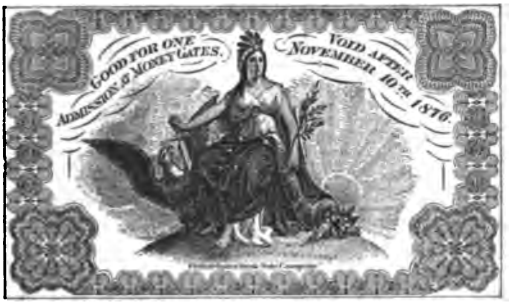
Third issue, white face, green back, letter "H" on face.



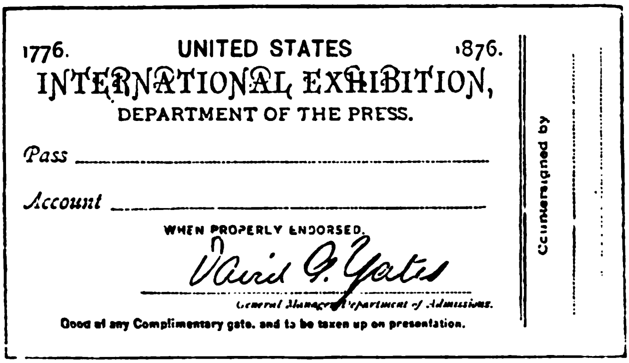
1776 UNITED STATES 1876
International Exhibition.
May 10th PHILADELPHIA Nov 10th
PACKAGE TICKET.
No. ADMIT THE BEARER. H
57526 David G. Yates.
GENL. MANAGER DEPT. OF ADMISSIONS

Department of Admissions.

Back of package ticket.


GOOD FOR ONE ADMISSION & MONEY GATES.
VOID AFTER NOVEMBER 10TH 1876.

Press daily pass, blue card.


1776. UNITED STATES 1876.

INTERNATIONAL EXHIBITION,

DEPARTMENT OF THE PRESS.

Pass ....

Account ....

WHEN PROPERLY ENDORSED.

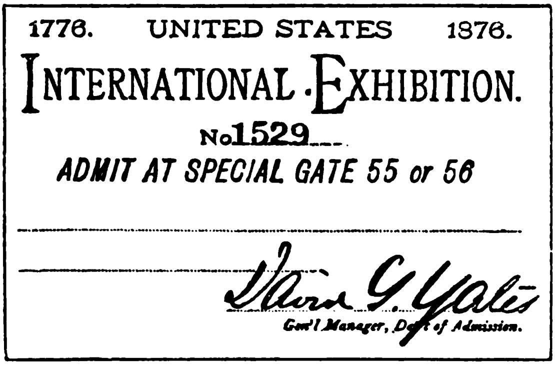
David G. Yates

General Manager, Department of Admissions.

Good at any Complimentary gate, and to be taken up on presentation.

Countersigned by

Special pass, white card, consecutively numbered in red.


1776. UNITED STATES 1876.

INTERNATIONAL EXHIBITION.

No 1529

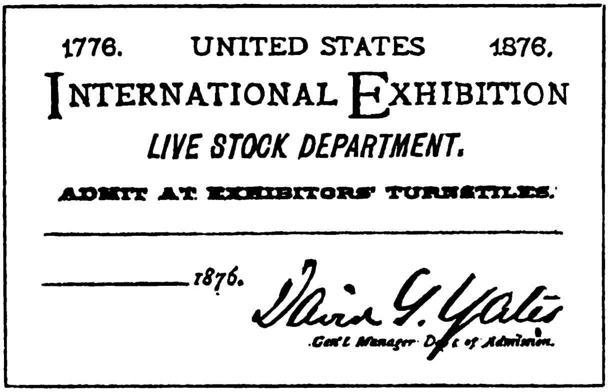
ADMIT AT SPECIAL GATE 55 or 56

David G. Yates

Gen'l Manager, Dep't of Admission.

Department of Admissions.

Special pass to live-stock department, printed in purple on white card.



1776. UNITED STATES 1876.

INTERNATIONAL EXHIBITION

LIVE STOCK DEPARTMENT.

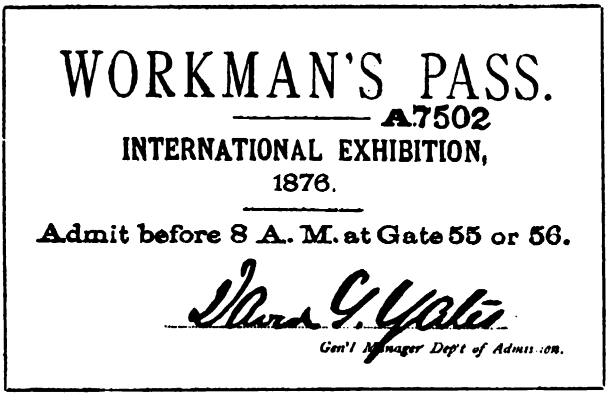
ADMIT AT EXHIBITORS' TURNSTILES.

____________1876.

David G. Yates

Gen'l Manager Dep't of Admission.

Workman's daily pass, white card, printed in red, and consecutively numbered in blue.



WORKMAN'S PASS.

A7502

INTERNATIONAL EXHIBITION,

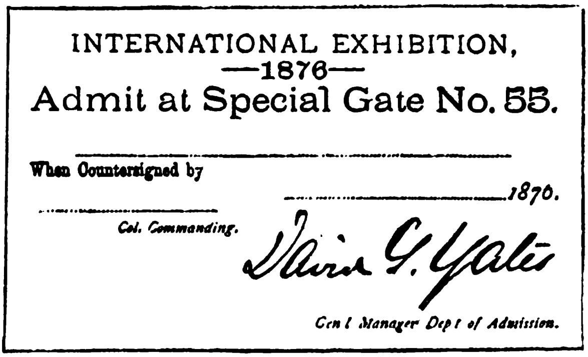
1876.

Admit before 8 A. M. at Gate 55 or 56.

David G. Yates

Gen'l Manager Dep't of Admission.

White card.



INTERNATIONAL EXHIBITION,

—1876—

Admit at Special Gate No. 55.

When Countersigned by

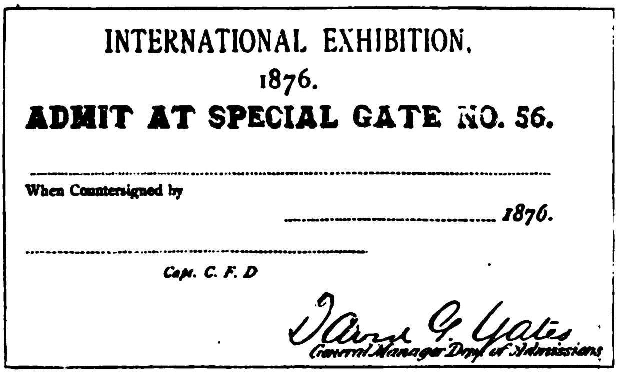
____________1876.

____

Col. Commanding.

David G. Yates

Gen'l Manager Dep't of Admission.



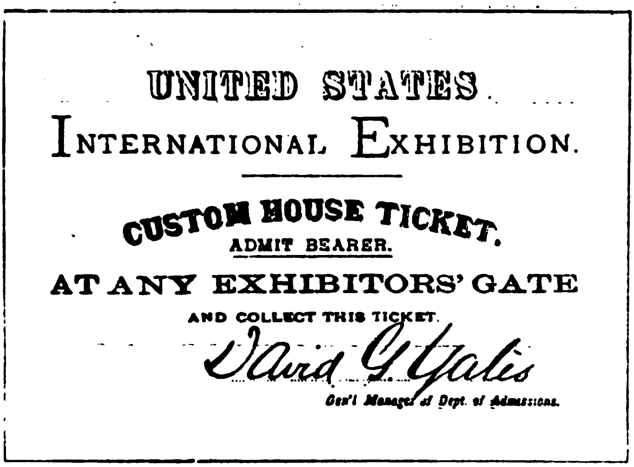
INTERNATIONAL EXHIBITION,
1876.
ADMIT AT SPECIAL GATE NO. 56.

When Countersigned by
.... 1876.
....
Capt. C. F. D

David G. Yates
General Manager Dept. of Admissions

Department of Admissions.

Red card.

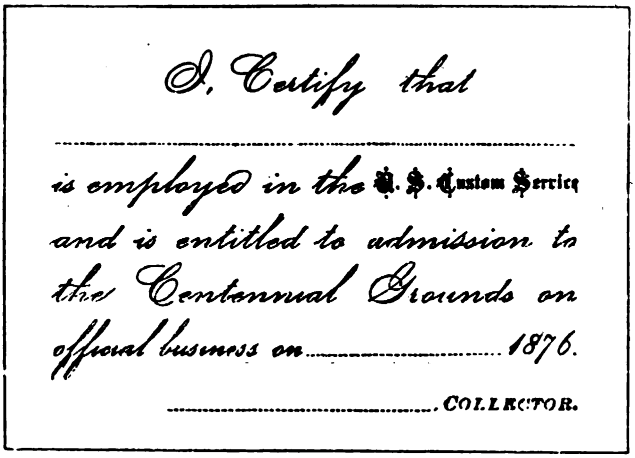


UNITED STATES
INTERNATIONAL EXHIBITION.

CUSTOM HOUSE TICKET.
ADMIT BEARER.
AT ANY EXHIBITORS' GATE
AND COLLECT THIS TICKET.

David G. Yates
Gen'l Manager of Dept. of Admissions.

Face of custom's ticket. Pink card.

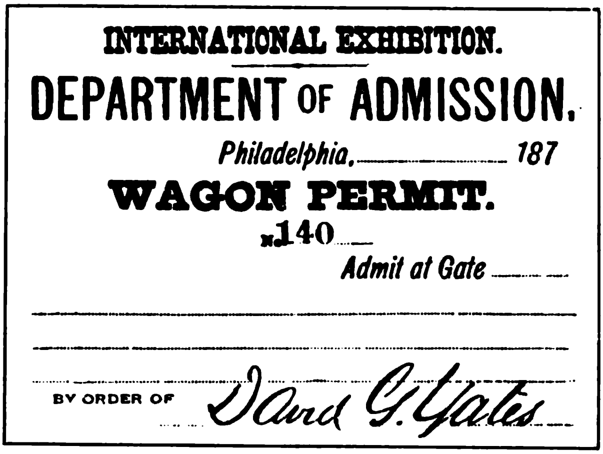


I, Certify that
....
is employed in the U. S. Custom Service
and is entitled to admission to
the Centennial Grounds on
official business on .... 1876.
.... COLLECTOR.

Back of custom's ticket

Department of Admissions.

Card light buff, consecutively numbered in red.



INTERNATIONAL EXHIBITION.

DEPARTMENT OF ADMISSION.

Philadelphia, ______ 187

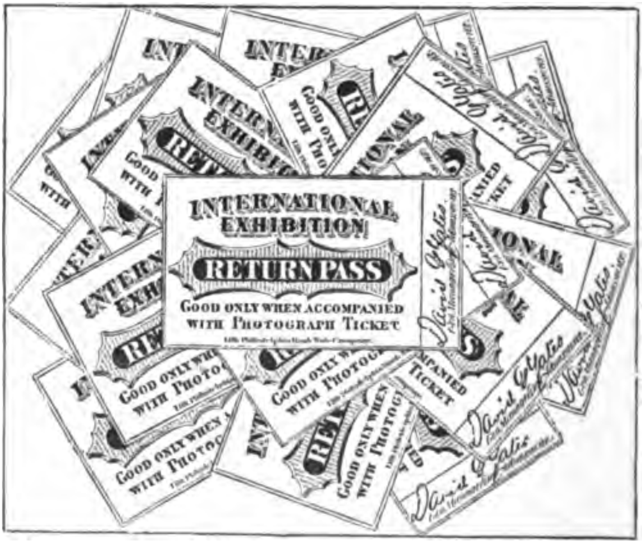
WAGON PERMIT.

No. 140

Admit at Gate ______

BY ORDER OF David G. Yates

Return pass checks; day and date stamped on check; nineteen combinations of colors.



INTERNATIONAL EXHIBITION

RETURN PASS

Good only when accompanied with Photograph Ticket

David G. Yates

Department of Admissions.

Invitation to 4th of July ceremonies.

The United States Centennial Commission
and the Centennial Board of Finance
respectfully invite you to be present
at the exercises in honor of the
One Hundredth Anniversary of the Declaration
of the Independence of the United States
July 4th 1876.
Independence Square, Philadelphia.

To ______________________

____

____

Philadelphia, June 10th 1876.

Department of Admissions.

Ticket accompanying invitation to 4th of July ceremonies.

Envelope same as opening and closing ceremonies.

ADMIT BEARER

TO

PLATFORM,

SECTION E, 89-110

Entrances through State House and from Sixth Street.

Governing railroad coupon tickets.

INTERNATIONAL EXHIBITION.

NOTICE TO RAILROAD COMPANIES.

Railroad Companies, desiring to issue Coupon tickets good for admission to the International Exhibition, must make arrangements in advance with the Centennial National Bank for their redemption.

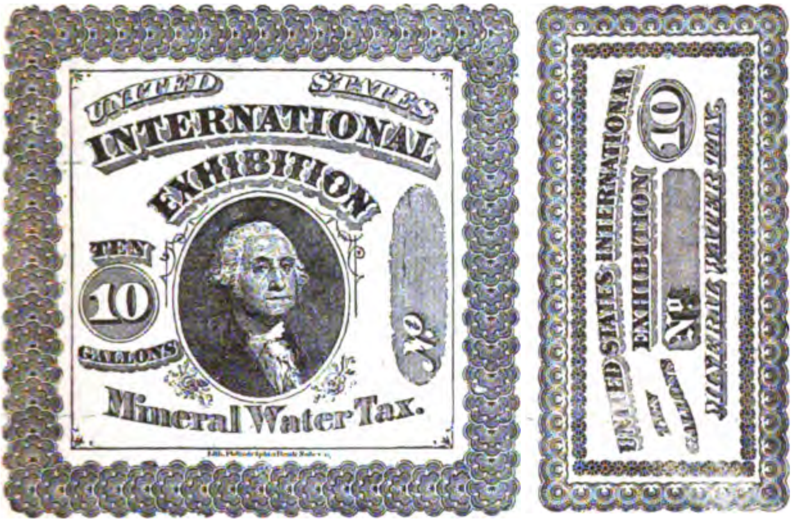
Samples of Coupons must also be sent in advance of issue to the Bank and to

DAVID C. YATES,

Gen'l Manager Dep't of Admission.

Centennial Grounds, Philadelphia.

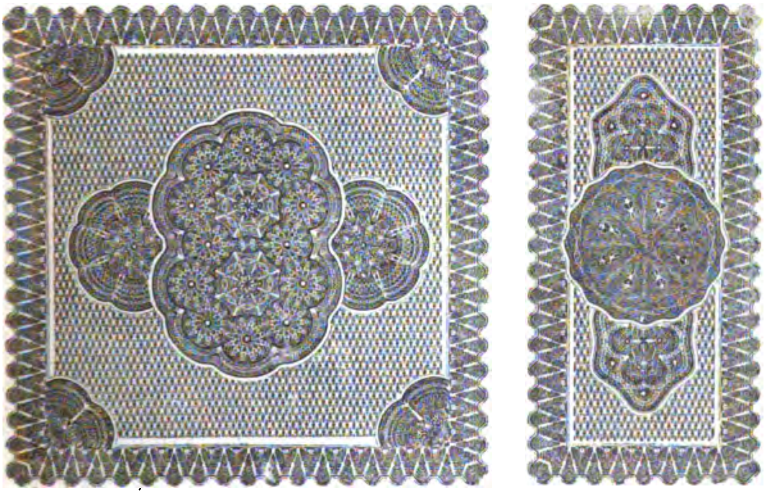
Department of Admissions.



Mineral water tax stamp with coupons. White card, printed green face and blue back for one dozen pint stamp.

Blue face with pink back for two dozen pint stamp.

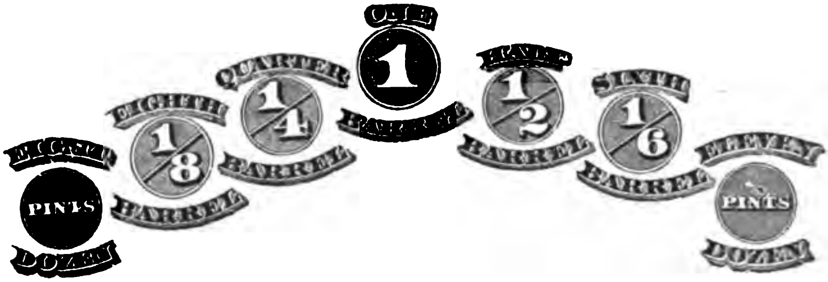
Black face with green back for ten-gallon stamp



Back of mineral water tax stamp and coupon.

Department of Admissions.

Denomination of malt liquor stamps.



Malt liquor coupon stamp. Color:—

½ bbl., black face, green back.

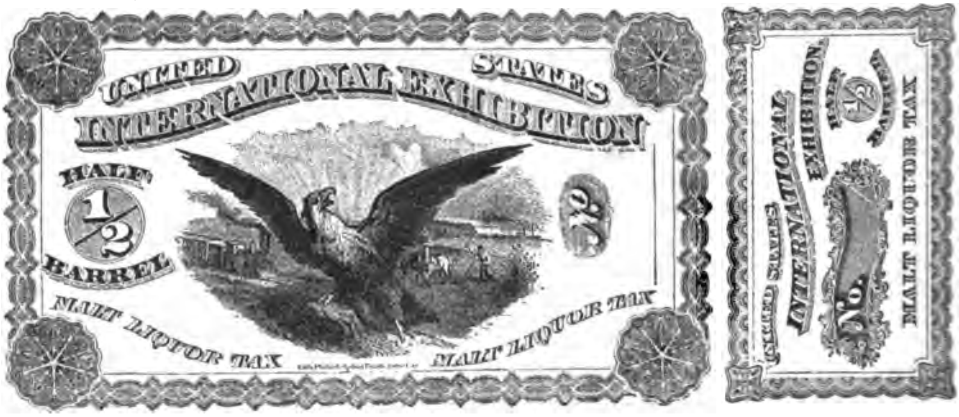
¼ bbl., blue face, pink back.

⅙ bbl., purple face, green back.

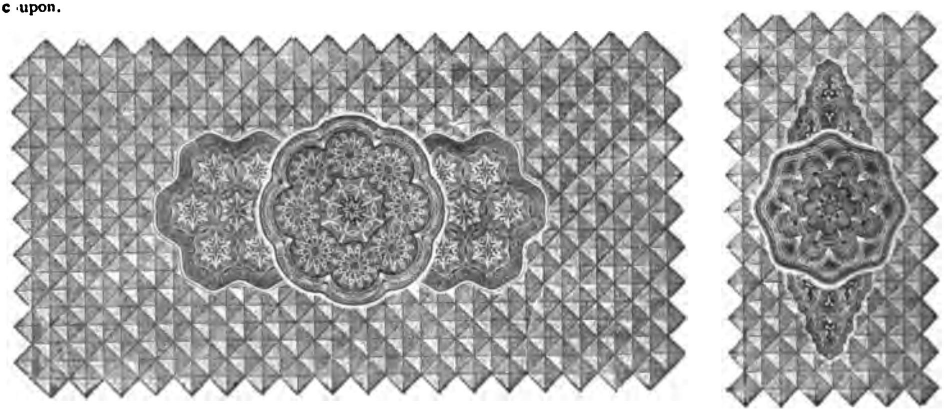
⅛ bbl., brown face, orange back.

11 doz. bottles, pink face, blue back.

8 doz. bottles, orange face, green back.

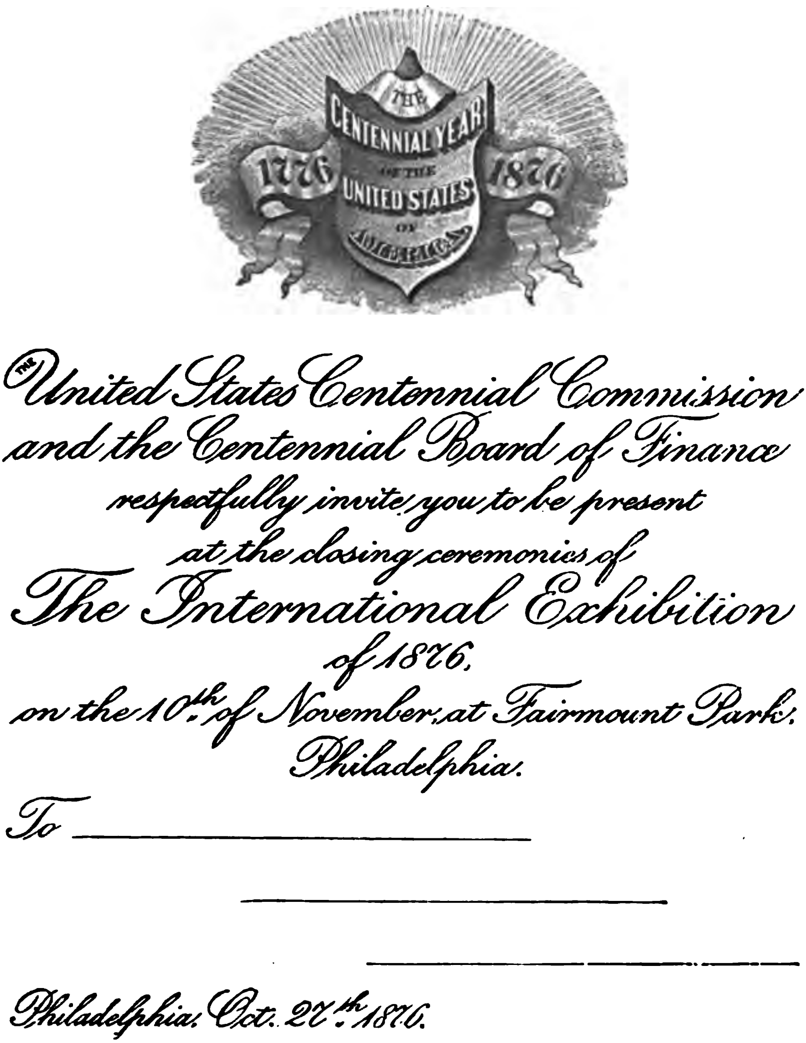


Back of malt tax stamp and coupon.



Department of Admissions.

Invitation to closing ceremony.



THE CENTENNIAL YEAR OF THE UNITED STATES OF AMERICA

1776 1876

The United States Centennial Commission
and the Centennial Board of Finance
respectfully invite you to be present
at the closing ceremonies of
The International Exhibition
of 1876,
on the 10th of November, at Fairmount Park,
Philadelphia.

To ______________________

____

____

Philadelphia, Oct. 27th 1876.

Department of Admissions.

Cards accompanying invitation to closing ceremony.

Envelope same as opening ceremony.

ADMIT BEARER

TO CLOSING CEREMONIES,

THROUGH GATE 66.

November 10th, 1876.

1776—International Exhibition,—1876.

CLOSING CEREMONIES.

Friday, November 10, 1876.

ADMIT ONE.

SECTION I.

AWARDS.

BUREAU OF AWARDS.

International Exhibition.

—1876—

UNITED STATES CENTENNIAL COMMISSION.

Bureau of Administration.
AWARDS.

Philadelphia, May, 1878.

HON. A. T. GOSHORN,
Director-General International Exhibition.

SIR,—I have the honor to submit the following report of the action of this Bureau during the continuance and since the close of the Exhibition. The report will be confined strictly to the administration of the system of awards, all criticism of the display, in the several departments, being left to the Judges designated for the purpose in accordance with the resolution of the Executive Committee of the Commission, June 17, 1876.

I have the honor to be, sir, very respectfully yours,

FRANCIS A. WALKER,
Chief of Bureau of Awards.

REPORT

OF THE

CHIEF OF THE BUREAU OF AWARDS.

Bureau of Awards.
Organization.

The Bureau was organized by Prof. Charles J. Stillé, LL.D., Provost of the University of Pennsylvania. Prof. Stillé, however, felt himself obliged to withdraw from the position, and Prof. Lewis M. Haupt, who had been Prof. Stillé's secretary, remained in charge of the office until my arrival, on the 22d of May, the Exhibition having been opened thirteen days. It was my good fortune that Prof. Haupt consented to afford me his zealous and intelligent assistance for several weeks after I assumed charge of the office.

It would have afforded me much gratification to submit with this my predecessor's account of the action of the Bureau while under his charge; but he has thought good to decline to make any statement for publication. I have, therefore, to refer to the Journal of the Commission for all that relates to (I.) the adoption of a system of classifying products; (II.) the promulgation of rules to govern the adjudication for award; (III.) the apportionment and appointment of Judges.

The essential facts under each of the several heads are as follows:

I. THE CLASSIFICATION OF PRODUCTS.

Classification.

An extended system of classification was early adopted by the Commission, and promulgated as the basis both for the arrangement of products on exhibition, and for their adjudication with reference to award.* Subsequently and shortly before the opening of the adjudication, a compendious scheme was adopted and promulgated, entitled *Grouping for Judges' Work*. This scheme constituted twenty-eight groups of products.†

Certain considerable bodies of exhibits, comprising no fewer than thirty classes in the original classification, were omitted from the

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* The classification will be found in Exhibit A, page 585.

† The scheme will be found in Exhibit B, page 603.

Bureau of Awards. Classification and Judges.

Grouping for Judges' Work, as thus put forth. The omitted classes may be brought under four general heads, as follows:

1. Those relating to live-stock, Classes 630–6.
2. Those relating to commercial systems and appliances; systems of government; institutions of benevolence, co-operative associations; religious organizations and systems, art and industrial exhibitions, Classes 345–9.
3. Those relating to cereals; tobacco, hops, tea, coffee, and spices; seeds and seed-vessels, Classes 620–4.
4. Those relating to ornamental trees, shrubs, and flowers, Classes 700–12.

For the first, it was the purpose of the Commission to appoint a special corps of Judges, representing the United States, England, and Canada, as the principal contributors to this department of the Exhibition; and this intention was at a later period duly carried into effect, the Judges so appointed constituting Groups XXX. to XXXV. The omissions under the second title seem to have been due to an indisposition on the part of the Commission to take up the class of subjects embraced therein, or deal with the profound and difficult questions in moral, social, and economical philosophy which they involve. In this respect the Exhibition of 1876 differs from previous International Exhibitions, where projects and practical efforts for the amelioration of the condition of mankind have received much attention. In default of any provision by the Commission for the adjudication of these classes, the exhibits appearing therein were administratively assigned to a group of Judges, those, namely, in Education and Science, (XXVIII.), who were already heavily burdened, and were in consequence able to give but a fragment of their time to the consideration of these subjects. The omission of classes under the third head proved the cause of no little embarrassment. The exhibits within them were very extensive. In the absence of any provision for their adjudication, it became necessary to ask the Judges of Group IV. to take up these large classes, in addition to the vast masses of vegetable and animal products which formed the proper subject-matter of that group. The classes embraced under the fourth head were at a later date referred to a body of Judges (Group XXIX.) wholly American.

Besides these extensive omissions from the *Grouping for Judges' Work*, the obscurity of some of the lines of classification adopted increased greatly the liability, always in a degree existing, of articles to fall-through between contiguous, but not completely conterminous groups; while, in other cases, the same articles might with equal

Bureau of Awards.

reason be drawn within two groups, from which resulted not a little duplication of agency and of result.

II. RULES GOVERNING THE ADJUDICATION OF PRODUCTS FOR AWARD.

System of Awards.

The system adopted by the Centennial Commission, and which has come to be called the "American System of Awards," was intended to substitute for the anonymous verdict of a jury the personal decision of a responsible Judge, and for the vague language of gold, silver, and bronze medals, and orders of the first class or the second class, a full and precise statement of the merits of each exhibit receiving the commendation of the Judges and of the Commission.

At previous Exhibitions, awards have been decreed upon the reports of sections of an "International Jury," consisting of several hundred members, the nations—except that under whose auspices the Exhibition was held, which had, of course, a membership altogether out of proportion—being represented thereon according to their relative importance, or according to the space occupied by each in the Exhibition. The Jurors were appointed by the Governments of their respective countries. If they received any compensation for their services, or allowance for their expenses, it was from their own Governments alone. They thus became the representatives of their Governments upon the International Jury. Furthermore, when assigned to groups within the Jury, for the adjudication of products in the several departments of the Exhibition, the Jurors became members of bodies whose verdicts were delivered through their respective Chairmen, with no individual responsibility attaching thereto.

In the Exhibition of 1876, the Judges were appointed, indeed, by the Governments of their respective countries; but they became by the acceptance of their appointments officers of the Exhibition. An allowance was made for the personal expenses of the Judges, amounting to $1000 for each foreign, and $600 for each American Judge, which gave the administration a rightful claim to the presence of the Judge, except when kept away by adequate cause, during the entire term fixed for the adjudication. The effect of this provision, it was believed, would be, first, to secure the services of many eminent persons who might not have felt disposed to accept such appointments wholly at their own charges; secondly, to withstand the strong tendency, which exists in all bodies constituted like the International Juries of previous Exhibitions, to perform the actual work of adjudication through a small and constantly dwindling number of persons, those only remaining throughout who are actuated either by a peculiarly urgent sense of duty or else by some special interest, personal or national, in the result.

Bureau of Awards.

System of Awards.

Moreover, in the Exhibition of 1876 the idea that at least every important country should be represented in the adjudication of every department was definitively rejected. Judges were to be appointed only in number sufficient to perform the actual duties of examination and report.* The advantage anticipated was that, by the very constitution of the Board of Judges, the notion that any Judge represented his own country, in any special sense whatever, or was bound to strive, or was even at liberty to strive, to promote the triumph of exhibitors of his own nationality, would be wholly done away; that, on the contrary, each would recognize himself as under the strongest obligations of honor to regard the interests of exhibitors from all countries indifferently, looking only to the claims of merit, without partiality or prejudice.

Finally, the system adopted in the Exhibition of 1876 required a single responsible author for every recommendation of award made to the Commission. Only upon the written report of a Judge, speaking in his own name and upon his personal credit, were the honors of the Exhibition, in any case, to be conferred. The good-natured assent, obtained perhaps after much solicitation, of the majority of a group of Judges would not suffice. The majority of the group must, indeed, ultimately pass upon the recommendation, but a single Judge must first examine and report upon the product, and thus stand responsible to his colleagues, to the Commission, and to the world for the substantial merits of every product which should receive an award.

I could not better show the natural tendency of such a requirement than by citing an actual case which occurred during the progress of the adjudication at Philadelphia. I was waited on by the Judges of a certain group, with the inquiry, whether a joint signature of the members would in a certain case be accepted in place of the usual signature of the examining Judge. They said, with the greatest frankness, that every member of the group was so far impressed with the apparent merits of the product in question as to be prepared to join in such a recommendation, while not one felt sufficiently assured that there would not be serious drawbacks in its use to be willing to stand forth as the responsible author of a recommendation for an award. The Judges in this case were not actuated by unmanly fear of doing

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* Thus, Great Britain was represented on only eighteen of the twenty-eight regular groups; Germany on only twelve; France on only fourteen; other countries on only eight, six, four, or even two.

Bureau of Awards.
System of Awards.

their duty. They had already canvassed numerous applications with intelligence, and decided them with fairness and firmness. They had reached a case where, in the balance of advantages and disadvantages, a Jury would have given the benefit of the doubt to the exhibitor; but a Judge, feeling his accountability to the public, which might be misled by his action to its serious loss, could do no other than withhold his approbation, leaving the merits of the product, if, indeed, it were, on the whole, meritorious, to be shown at a later Exhibition, after further trial in use, perhaps after further improvement in the processes of production. The case I have cited was not an isolated one, but it will serve sufficiently to exemplify the natural and proper influence of the principle of individual responsibility.

Form of Awards.

Such was the system of adjudication at Philadelphia. An innovation, quite as important, was made as to the form which the awards should take when decreed by the Commission. In previous Exhibitions bronze, silver, and gold medals, with, in some cases, "honorable mention," in others decorations, ribbons, stars, and crosses, have been conferred in recognition of merit, the "motive" forming no essential part of the award. Under the plan adopted in the Exhibition of 1876, medals uniform as to size, design, and material were conferred on all successful exhibitors, while the report of the examining Judge was made not only an essential, but the principal and vital part of the award. This report, it was designed, should set forth the characteristics of the product, the elements of its merit, and, in so far as practicable, the degree of merit. In other words, it was to be the real award. The medal was to be only a token that the exhibitor had received an award; the report should tell what that award was.

A hundred illustrations might be given to show that the word *good,* as applied to industrial products, is a relative term, and that, for the purposes of the public, the Judges of an International Exhibition ought to say what a product is good for. Whether the word *best* should ever be used in such reports may fairly be open to question; but, in general, it must be said that an intelligent and discriminating Judge can always say something better of a product than that it is the best. If, indeed, it is the best, it must be so from the possession of properties which can and should be stated. That word is, however, more often the refuge of incompetence, indolence, or partiality. It rarely happens that one product surpasses all competitors in all qualities so clearly that it can, without qualification or explanation, be called the best. If, on the other hand, it is found, in the estimation of the Judge, to be the best only as the result of the balancing of advantages and disadvantages, merits and defects, such

Bureau of Awards. System of Awards.

as are found in most human inventions and productions, then, in justice both to other exhibitors and to the purchasing public, the whole case ought to be set fairly forth, and the points of superiority specifically stated.

Nor merely in justice to competitors and to the public: the requirement of distinct reasons for an award is a safeguard to the diligence and accuracy of the Judge, who will on that account be far less likely to be hasty and perfunctory in his examinations. Obliged to dwell upon the product sufficiently to write intelligently about it, he will, in not a few cases, reverse his first decision, finding, on a more critical inspection, a sham beneath a brave show, or discovering liabilities to accident and waste in the subordinate parts of a machine whose general design is good, but which has not yet been adequately worked out.

III. THE APPOINTMENT AND APPORTIONMENT OF JUDGES.

Judges.

The definitive rejection of the idea that Judges were to represent and maintain, by word and vote, in each department of the Exhibition, the claims and interests of their respective countries, enabled a much smaller number of persons to conduct the examinations than has generally been found necessary at International Exhibitions. The number of Judges for the original twenty-eight groups was fixed at 250,—one-half to be Americans, appointed by the United States Centennial Commission; the other half to be appointed by the Governments of the several foreign countries participating in the Exhibition, in proportions assigned by the Centennial Commission.

Owing, however, to declinations or resignations in several cases, or to failure to appoint on the part of foreign Governments, the number actually appointed and serving was only 233, of whom 115 were American and 118 foreign Judges. The following table exhibits the apportionment of the latter number among the several foreign countries participating in the Exhibition:

Great Britain	21	Portugal	3
France	15	Japan	3
Germany	14	Norway	3
Austria	8	Egypt	2
Spain	7	Denmark	2
Belgium	6	Turkey	2
Sweden	6	Tunis	1
Italy	5	Argentine Republic	1
Russia	4	Chili	1
Brazil	4	Mexico	1
Netherlands	3		
Canada	3		118
Switzerland	3		

Bureau of Awards. Work of the Judges.

Such being the provision made prior to May 22 for the adjudication of products, the duty now devolving upon me is merely to describe the working of the system thus created, and to give a summary of the results. The principle of the individual independence of the Judge having been established, the work of the Bureau of Awards was loyally confined to assisting the Judges in the discharge of their duties, by bringing exhibits to their notice, by providing clerical assistance and material supplies and accommodations, and by consultation with individual Judges or with groups of Judges, having for its object the removal of the difficulties of special cases, or the exposition of the rules of adjudication, never the influencing of decisions as to the merit of products exhibited. I can say, with the utmost confidence, that the Bureau of Awards never sought, by any means, direct or indirect, to invade the province of the Judges, or to limit their discretion and authority. In the trial of a system so radically differing from that previously in use at International Exhibitions, no half-way measures, no compromises in the application of rules, were possible or desirable. The reports upon the more than thirteen thousand products receiving awards are, without intermixture, the work of the Judges of the Exhibition.

The operation of the principle of individual independence in action, with individual responsibility for the result, as applied to the adjudication of products at Philadelphia, may, without hesitation, be pronounced to have been successful, even beyond any reasonable anticipations of those who incorporated this principle in the "American system of awards." Without claiming that all Judges, of all nationalities, accepted this principle with equal heartiness, or met its requirements with equal impartiality, it may be asserted that, in a surprising degree, a true internationalism was, from the first, developed among the corps of Judges, gathered, as they were, from every quarter of the globe, and bringing with them, necessarily, prepossessions the most diverse and even antagonistic. Distinctions here would be invidious. It is enough to say that, while the effects of political training and the characteristics of race and nationality were not wholly to be put off on such an occasion, in general the Judges of the Exhibition of 1876 rose to the height of the demand made upon them, bearing themselves truly as Judges in all that Americans mean by that term, dispensing their awards with a singular freedom from partiality towards exhibitors of differing nationalities, and with great harmony among themselves, in the discharge of their laborious and harassing duties.

Bureau of Awards.
System of Awards.

At one point the adjudication suffered a serious disadvantage, affecting both the temporary and the permanent value of its results. This was due to the lack of certain conditions and restrictions to which the scheme of awards should have been subjected, with reference to the kind and the economic importance of articles which should receive attention from the Judges. However it may have been with the "medal-system" of Europe, the system of descriptive and discriminating reports, which was substituted therefor at Philadelphia, cannot be advantageously applied to petty exhibits, especially to such as are not of a commercial character. If any exhibitor may receive an award simply upon the merit of the individual samples of his product shown, without respect to the extent of his display, or to the amount and economic importance of his production at home, the reports of the Judges will be so multiplied, and the subjects will become so trivial, as greatly to impair the authority and the dignity of reports on exhibits of importance. If every farmer who exhibits a can of maple-syrup is to be deemed entitled to an award, if indeed the syrup is found to be clear and pure and sweet; if every person who sends a pint of beans is to be deemed entitled to an award, if the beans are large and round and fair; if every miss who contributes an embroidered "Centennial" book-mark is to be deemed entitled to an award if only her work shows patience and pains, some other mode of recognition than the formal report of the Judge should be adopted for exhibits of this class,—a ribbon, a clasp, a medal, would be far more appropriate.

It was the lack of any restriction as to the kind or economic importance of exhibits which should claim the attention of the Judges, which allowed the awards at the Exhibition of 1876 to be swollen by many thousands beyond what would have been given had reasonable tests in these respects been applied, and which has encumbered the volumes which contain the reports of the Judges with many hundreds of what might as well be blank pages. No small part of the products thus noticed were well enough in a small way, but not of sufficient importance to justify their being formally reported on at an International Exhibition. Every such addition takes something from the value of the awards conferred upon exhibits of real importance.

But, even further, it is my strong conviction that, not only should the economic test be applied to rule out from award petty exhibits not of a commercial character; but economic considerations should be allowed to enter largely into the adjudication of products, as has been the case, I believe, at all previous Exhibitions. Such, however, was not the view of the Executive Committee of the Cen-

System of Awards.

tennial Commission, to whom I submitted the question in the early stages of the Judges' work. Cheapness was, indeed, admitted to be an element of merit to be recognized, but not the extent or variety of production. Now, it appears to me that a watch-maker, for example, who with great care fashions with his own hands two or three watches—to be displayed in an Exhibition—of a kind perhaps which he does not ordinarily make,—watches which he perhaps would not, or even could not, duplicate, were he to receive an order therefor,—may indeed be entitled to recognition for his skill and care and pains, but is not entitled to the same kind and degree of commendation as an stablishment which turns out two hundred watches a day, with absolute interchangeability of parts, and which ships its goods to every quarter of the globe. Supposing the watches shown in the two instances to be of equal merit in finish and performance, it does not seem to me open to question that, in an International Exhibition where the commercial interest is, after all, the main-spring of action, the economic importance of the latter establishment should be recognized by the Judges as an essential element of the exhibit made.

Difficulties.

It is also due to the Judges of the Exhibition that it should be stated that great difficulties were encountered in the examination of products, by the delay or failure of exhibitors to file the needed information respecting their products, and by the fact that the Catalogue, as at first published, was exceedingly defective, while the revised Catalogue was not printed till after the substantial conclusion of the adjudication. The information required for the use of the Judges should have been made a part of the conditions for actual admission to the Exhibition, if not for the initial assignment of space. Unfortunately, the blank schedules to be filled out for this purpose were not prepared in season to reach individual foreign exhibitors, except in so far as they were present in Philadelphia, while but a small proportion of the American exhibitors had made due return at the opening of the adjudication. Every effort was made, at that date, to remedy this defect, but in spite of all that could be done the Judges were greatly embarrassed by the lack of the required information, while the Catalogue, in some departments, proved a very uncertain guide as to the character and location of exhibits.

These difficulties, together with the late arrival of some Judges, the sickness of others, under the trying conditions of Philadelphia in the summer of 1876, and the unexpected magnitude of the task in certain departments, caused the work of adjudication to be protracted considerably beyond the date originally fixed for its conclusion, viz., July 31. By the middle of September, however, the work was sub-

Bureau of Awards. Appeals, etc.

stantially completed, the reports from a few groups being still in the hands of the Judges for revision or registration. The inevitable complaints of omission having been made, coming, in the great majority of cases, from exhibitors whose products had been found unworthy of commendation, or from those who had failed, on their part, to comply with the requirements established for the adjudication, the United States Centennial Commission, on the 18th of September, appointed a Committee to entertain "contests, appeals, and communications from exhibitors claiming that injustice had been done them in any matter relating to the examination of their products and reports of Judges for awards." With the Committee thus constituted were subsequently associated ten "Judges on Appeals," all but three of whom had been Judges of one or another of the original twenty-eight groups. As the result of the labors of this Committee, with its associate Judges, six hundred and twenty-eight awards were decreed by the Commission. Of these, many were bestowed on persons whose products had been examined and rejected by the regular Judges. The awards thus conferred will be found published as a supplement to the awards conferred upon the recommendations of the Judges of the original groups.

Collective Exhibits.

Still later than the appointment of the "Judges on Appeals" came the appointment of five "Judges of Collective Exhibits." The reason assigned for the constitution of this group was to place in view, as a whole, the displays made by corporations, governments, etc., which might fall into distinct departments and hence come to be considered, piece-meal, by the several groups of Judges dealing with the subjects comprised in such collective exhibits. The object sought was a desirable one, though it would have been better accomplished by the formation of a larger group, of not less than fifteen Judges, composed wholly of members of the original groups, who would have brought to the examination of this class of exhibits not only a familiarity with the Exhibition derived from their previous service, but a wider range of technical knowledge and experience than could reasonably be expected from Judges so few in number as those actually appointed to this duty. Unfortunately, too, the formation of this group was only determined upon by the Commission at a very late date, so that the work of the Judges, both in their examinations and in their reports, was so much hurried as to preclude them from doing full justice to their conceptions and plans. In one respect the Commission was most fortunate, namely, in securing the services of Mr. Dannfelt, the Royal Commissioner of Sweden, and of Mr. Oldendorff, the Commissioner of the Argentine Republic, gentlemen

Bureau of Awards.

whose large experience, varied knowledge, and great dignity of character went far to overcome the very grave difficulties of the situation. Upon the reports of the Judges of this group the Centennial Commission decreed one hundred and forty-eight awards to governments, corporations, etc.

Live-Stock Exhibits.

The Live-Stock Exhibitions were held between the 1st of September and the 6th of November. For the details I respectfully refer to the Report of the Chief of the Bureau of Agriculture. Upon the reports of the Judges of the several groups, XXX. to XXXVI, comprising the numerous classes under this general title, seven hundred and eighty-three awards were decreed by the Commission.

Awards made.

The following is a summary statement of the awards made:

Upon report of the Judges of the original twenty-eight groups . .	11.440
" " " Group XXIX. (Horticulture, etc.) . .	105
" " " Groups XXX. to XXXV. (Live-Stock) .	566
" " " Group XXXVI. (Pomology) . . .	217
" " " Judges on Appeals	628
" " " Judges of Collective Exhibits	148
Total	13,104

The following table exhibits the distribution of this total number among the several groups, from I. to XXXVI. (including those made on the reports of the "Judges on Appeals"), with further distinction between the awards conferred on Americans and those conferred upon foreigners:

Statement of the Number of Awards in each Group.

Group.	American.	Foreign.	Total.
I.	429	326	755
II.	105	206	311
III.	224	711	935
IV.	449	2,278	2,727
V.	92	114	206
VI.	50	214	264
VII.	194	132	326
VIII.	149	299	448
IX.	173	480	653
X.	253	446	699
XI.	28	139	167
XII.	216	129	345
XIII.	167	118	285
XIV.	156	37	193
XV.	156	72	228
XVI.	38	62	100
XVII.	133	64	197
XVIII.	46	24	70
XIX.	32	24	56
XX.	363	119	482
XXI.	129	39	168

Bureau of Awards.

Awards made.

Group.	American.	Foreign.	Total.
XXII.	42	16	58
XXIII.	248	46	294
XXIV.	76	75	151
XXV.	196	223	419
XXVI.	53	133	186
XXVII.	144	539	683
XXVIII.	214	448	662
XXIX.	78	27	105
XXX.	42	32	74
XXXI.	39	12	51
XXXII.	21	17	38
XXXIII.	9	5	14
XXXIV.	205	5	210
XXXV.	156	23	179
XXXVI.	142	75	217
"Collective Exhibits"	55	93	148
	5,302	7,802	13,104

The following table presents the distribution of the total of 13,104 awards among the several countries participating in the Exhibition:

Countries.	No. of Awards.	Countries.	No. of Awards.
The United States	5,302	Sweden	212
The United Kingdom, with its Colonies	1,621	Switzerland'	200
Portugal	902	Holland	195
Spain	762	Norway	142
France	697	Japan	142
Germany	605	Argentine Republic	83
Russia	450	Turkey	86
Italy	448	Mexico	75
Brazil	436	All others	199
Austria	294	Total	13,104
Belgium	253		

It is perhaps not out of place to remark that the preponderance of awards to Portugal, and in a less degree, to Spain, is largely due to the great number of individual exhibitors of wines and olive oils from those two countries.

Revision of Awards

The above total of 13,104 does not cover all the reports recommending awards made by the Judges of the several groups. Four hundred and sixty-seven reports of this character were either rejected or combined with others. In some instances the reports were either exactly or approximately duplicates of those upon which awards had already been granted. This was due to clerical inadvertence in sending forward reports on subjects already covered, or to the misunderstanding of Judges as to the division of their work. In other cases two or more reports were made by the Judges of a group upon products so closely kindred that the Commission deemed it more appro-

Bureau of Awards.

Revision of Awards.

priate to combine them, each part being, however, left distinct in the consolidated award. In another large number of cases products were reported upon by the Judges of two groups, owing to defects in the classification, which allowed no inconsiderable difference of opinion as to the proper place of many exhibits, or to the mixed nature of many products which no scheme of classification, not descending to an enumeration of individual articles, could assign to groups, in advance, with absolute assurance. In other cases reports were superseded by later and different reports from the same source, or from the "Judges on Appeals." In still other cases reports were rejected on its being ascertained that the exhibitor was not the producer or manufacturer of the articles exhibited, as required by the terms of competition. In some cases, finally, the Commission exercised its undoubted right of rejecting reports for reasons sufficient to itself.

The following table exhibits the distribution of this total of four hundred and sixty-seven reports, upon which no awards issued, among the several groups of the Exhibition:

GROUPS.	Duplicated within the same Group.	Duplicated in other Groups.	Superseded by new Reports from the same Group.	Superseded by Reports from Judges on Appeals.	The Exhibitor not being the Producer or Manufacturer.	Recalled and Rejected by the Judges of the Group.	Product not entered for Competition.	Reason not assigned, so far as appears by the Record.	Total.
I........	5	5	2	....	....	....	....	1	13
II........	3	....	1	....	....	2	....	....	6
III........	6	3	....	2	....	....	....	12	23
IV........	30	5	1	....	....	....	....	56	92
V........	4	1	....	....	....	....	....	....	5
VI........	2	....	1	....	....	....	....	....	3
VII........	2	4	....	....	....	....	....	2	8
VIII........	....	2	1	....	1	....	....	1	5
IX........	7	1	....	....	....	....	....	1	9
X........	3	5	....	....	1	....	2	1	12
XI........	1	5	2	....	....	....	....	5	13
XII........	2	2	1	....	....	....	....	1	6
XIII........	1	....	....	....	....	....	....	5	6
XIV........	3	3	....	19	....	....	....	1	26
XV........	1	11	2	....	....	....	....	....	14
XVI........	....	....	....	....	1	....	....	4	5
XVII........	2	....	....	2	....	....	....	....	5
XIX........	....	....	....	....	....	....	....	2	2
XX........	21	8	2	....	....	....	1	15	47
XXI........	....	7	1	....	....	1	....	3	12
XXIII........	....	7	1	....	....	....	....	6	14
XXIV........	7	2	1	....	....	....	....	2	12
XXV........	8	2	....	....	....	....	1	3	14
XXVI........	2	10	....	....	....	....	....	9	21
XXVII........	6	5	1	....	7	....	....	19	38
XXVIII........	7	9	5	1	....	....	....	16	37
XXIX........	....	2	....	....	....	....	....	....	2
XXX........	2	....	....	....	....	....	1	....	3
XXXI........	3	....	....	....	....	....	....	....	3
XXXIII........	4	....	....	....	....	....	....	....	4
XXXIV........	1	....	....	....	....	....	....	....	1
XXXV........	....	....	....	....	....	....	1	....	1
XXXVI........	2	....	....	....	....	....	....	....	2
"Collective exhibits"	....	1	....	....	....	....	....	2	3
	135	100	22	24	10	3	6	167	467

Bureau of Awards.

Revision of Awards.

It has been stated that, while the rules of adjudication required that the reports upon which awards were to be made should be signed by the examining Judge upon his personal responsibility, the concurrence of a majority of the group was also requisite. In some cases, however, after groups had, as was supposed, completed their work and had dispersed, it was ascertained that individual exhibits had escaped attention, either through the defects of the Catalogue, the sickness or necessary absence of the exhibitor, or other cause. Under these circumstances the Bureau of Awards did not hesitate to request such of the Judges of the group as still remained in Philadelphia to attend to the cases thus arising, or to admit as sufficient the signatures of fewer than a majority of the whole group. In no case, however, was this done when it was believed the product had previously been examined, or when there was reason to doubt that such a disposition of the matter would be acceptable to the absent Judges.* Nor, without such actual or constructive concurrence of the majority of the group, was any award decreed by the Commission prior to the formation of the group of "Judges on Appeals," with the single exception of that given to the "Golden Wine" of California, upon the finding of a Judge of Group IV. after its rejection by that group.

While the Commission exercised its undoubted right of accepting or rejecting recommendations for award, those reports were either adopted or rejected entire, as they came from the Judges, with the exception that the Commission held itself free to strike out from a report, otherwise acceptable, allusions to matters not within the scope of the adjudication, as laid down in the rules for the guidance of the Judges and in the successive decisions of the Commission in interpretation thereof. Within the range of this exception fell all statements respecting the extent of production, the size of establishments, etc., the exclusion of which from the consideration of the Judges has already been commented on, and also all remarks which, whether so intended or not, bore the appearance of advertising the business of exhibitors.

The statement made above that, after the formal adjournment of a group, exhibits were not referred for examination to such of the Judges of the group as might be within reach, if there was any reason to believe that the products in question had already been examined, or if there was any reason to doubt that such action would be acceptable to the absent Judges, finds an apparent exception

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* An apparent exception to this statement exists in respect to the re-opening of the adjudication in Group XXVII., which will be described farther on.

Bureau of Awards.
Revision of Awards.

in the re-opening of the adjudication in Group XXVII. (the Fine Arts) during the month of August. Here, however, the reason which had governed the action of the Bureau, in respect to other departments of the Exhibition, lost its force through the action of the group while in session.

The Judges of Group XXVII. met and organized on the 25th of May, and on the 25th of June adjourned, reporting to the Bureau of Awards the completion of their work, except with respect to the Russian exhibit, which had been detained on the voyage, and for which separate provision was to be made. Most of the foreign Judges, who constituted a considerable majority, immediately returned home. Complaint having been made to the Bureau of Awards, an examination of the records of the group disclosed a resolution by the Committee on Painting, adopted June 5, as follows: "That a majority of votes cast in favor of an exhibitor should suffice to express the approval of the Committee, and that each one in turn should have the privilege of proposing a name for recommendation for award, subject to the approval of the majority of the Committee."* It further appeared that the same Committee had fixed the number of awards to be given in each department of painting,—landscape, genre, portrait, etc.—before completing the consideration of the works exhibited, and that, having declared the list of awards closed, the Committee had on the 15th of June refused to allow the names of certain exhibitors, not already passed upon, to be submitted for a vote, on the ground that the lists had been so closed.

Under these circumstances, the Administration could not, in justice to itself or to the exhibitors who had at pains and expense placed themselves in competition, under the rules of adjudication promulgated by the Commission, do otherwise than seek, by such means as were available at that late date, in that unforeseen exigency, to repair the injury that had been done. Under instructions from the Director-General, the members of the group, so far as they could be reached, by letter or telegraph, in season for the purpose, were requested to return to Philadelphia. Under this summons five American and three foreign Judges were enabled to be present on the 2d and 3d of August. Of the latter, one, M. Carl Schlesinger, of Germany, while, in a written paper, expressing himself "in sympathy with the opinions of those members of the Committee now present who think the number of medals proposed is far too small," felt himself concluded against further action by the fact that he had concurred in the original vote of the Committee on Painting. Two American members of the group were not present, remaining away under protest against any re-opening of the subject.

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* In their report to the group, this Committee put it even more strongly. They say: "The Judges in Classes 410–13 in the recommendations for award unanimously agreed to abide by the vote of the majority."

Bureau of Awards. Revision of Awards.

From a group thus constituted results could not have been expected so satisfactory as might have been obtained through the labors of the entire original group, had the adjudication been carried on in conformity with the system established by the Commission. Under the circumstances, however, no other course was open, and the Commission, fully recognizing the situation, received and passed upon the recommendations of the remaining Judges as if they had received the sanction of the entire group.

Tests.

The conditions under which the adjudication took place precluded any general application of practical tests at the Exhibition. In some cases, too, the machinery exhibited was not in position or properly equipped for such tests, and the peremptory requirement of them would have thrown many exhibitors out of competition. It was, therefore, left to the several groups of Judges to decide how far trials of speed, accuracy, endurance, etc., among competing products, were essential to the proper determination of positive or comparative merit. In some sections of the Exhibition the Judges were able to apply extensive and varied tests, reaching results of great value; in others, the institution of such tests would have protracted the adjudication for months beyond the prescribed term.

In several departments, however, though time did not permit practical trials previous to the reports of the Judges, it was thought best to take advantage of the occasion of the gathering together of so much choice machinery, to institute experiments on a considerable scale for the advantage of the general public. Tests of turbine water-wheels, of boilers, of steam fire-engines, were made under the direction of Committees of Group XX., composed of Judges who consented to give to the subject a degree of time and attention far exceeding any reasonable requirement that could be made of them under the terms of their appointment. Experts were also employed, and through the able co-operation of the Chief of the Bureau of Machinery the trials were brought to results which, I am confident, will be received as an important contribution to science and to practical knowledge in the departments to which they severally relate.

Judges' Reports.

Under instructions from the Commission, I have edited and put to press the entire body of reports recommending awards in each group of products. In doing so, I have loyally observed and respected the intention of the Judges. I have, however, felt at liberty, in the case

Bureau of Awards.

Judges' Reports.

of some foreign Judges writing our language with difficulty, to change the actual form of words, the better to express the evident meaning of the writer.

Each recommendation for award, as offered by the Judges, commenced with the following (printed) lines: "The undersigned, having examined the product herein described, respectfully recommends the same to the United States Centennial Commission for award, for the following reasons." As, by the instructions of the Director-General, the names of the Judges were not to appear under the reports signed by each severally, it became necessary to drop this formal introductory phrase, the repetition of which 13,104 times would have occupied forty-five solid pages of the printed reports. Wherever the examining Judge had made the grammatical construction of his written "motive" dependent on this introductory form, the single word "commended" was used to replace it. In many cases, however, the Judge disregarded the printed lines, and gave the motive in distinct and complete sentences; in which cases the phrase above quoted was simply dropped.

The reports of individual Judges upon individual exhibits were all which the original instructions of the Commission required from the Judges as their contribution to the permanent literature of the Exhibition. By resolution of June 17, 1876, however, the Executive Committee of the Commission instructed the Chief of this Bureau to request the several groups of Judges to prepare reports of a more general nature, describing and discussing the Exhibition in its various departments. It is a matter of no little regret that such reports were not embraced in the original scheme under which the Judges were appointed, accepted office, and met and organized for their work. The resolution of the Commission was not communicated until large sections of the Exhibition had already been canvassed by the Judges. The foreign Judges had already begun to look forward to their return; and the unprecedented heat of the summer of 1876 made any added delay thrice unwelcome. The preparation of a general report of the character contemplated by the Executive Committee could not be required of any Judge as of right, and there were few who had not already found themselves disappointed in the draft upon their time and strength which was made by the regular duties of their office.

Under these circumstances, I have found it not in all cases easy to carry out the plan of the Commission in this respect; yet in the main, the Judges have responded to the unwelcome call with great amiability and patience. A series of reports has been prepared, comprising

Bureau of Awards. Judges' Reports.

105 separate papers, in an aggregate of over 2500 pages, besides over 1600 pages of reports on awards, all of which have been already issued from the press. Not all departments have been equally well covered, but on the whole, I have confidence that these reports will be found to be a body of Exhibition literature well worthy of the illustrious occasion to which it owes its origin. From the nature of the case, it resulted that the greater portion of this labor has fallen on Americans, though several papers of high value have been contributed by foreign Judges. To all those who have undertaken this service, in addition to their arduous duties as Judges, are not only my humble acknowledgments, but the hearty thanks of the Centennial Commission, due.

Authors of Reports.

The following is a list of the general group-reports and separate papers prepared under the resolution of June 1, with their respective authors:

GROUP I.—MINERALS, MINING, AND METALLURGY, INCLUDING THE MACHINERY.

Bitumen, Asphaltum, Petroleum, and other hydro-carbonaceous substances, excepting Coal, pp. 2–18. G. C. BROADHEAD.
Wrought-Iron and Steel, pp. 19–50. ALEXANDER L. HOLLEY.
Coals, pp. 50–107. FREDERICK PRIME, JR.
Building and Ornamental Stones, pp. 107–171. J. S. NEWBERRY.
Whetstones and Oil-Stones, or Hones, pp. 172–175; Millstones, pp. 176–182; Grindstones and fixtures, pp. 183–189; Emery and Corundum, pp. 189–196. JAMES M. SAFFORD.
Mercury, pp. 196–207. DANIEL DE CORTAZAR.
Mechanical Dressing of Ores and Coal, translated by ——— Howe, pp. 207–338. E. F. ALTHANS.
Coal-Mining Machinery, pp. 338–353. ACHILLE JOTTRAND.
Geological and Mineralogical Collections at the Exhibition, pp. 353–386. JAMES M. SAFFORD.
Supplement to the General Notice of the Geological and Mineralogical Collections, pp. 386–392. G. C. BROADHEAD.
Second Geological Survey of Pennsylvania, Models and Maps in Exhibition, pp. 392, 393. JOHN H. HARDEN.
Lithological and Palæontological Collections, pp. 393–395. C. E. HALL.
Mexico, pp. 396, 397; Brazil, pp. 397–399. G. C. BROADHEAD.
Abstract of the Reports of Group I., pp. 400–402. I. LOWTHIAN BELL.
Note by the Editor, p. 403.
Reports on Awards, pp. 405–485.

GROUP II.—POTTERY, GLASS, ARTIFICIAL STONE, ETC.

Pottery, Porcelains, Tiles, Glass and Glasswares, and their materials, pp. 2–114. R. H. SODEN SMITH, HECTOR TYNDALE.
The Chemistry and Composition of the Porcelains and Porcelain-Rocks of Japan, pp. 114–147. HENRY WURTZ.

Bureau of Awards.
Authors of Reports.

Portland, Roman, and other Cements, and Artificial Stone, pp. 147–183; Brick-making Machinery, Brick-kilns, Perforated and Enameled Bricks, and Pavements, pp. 184–250. Q. A. GILLMORE.
Reports on Awards, pp. 251–284.

GROUP III.—CHEMISTRY AND PHARMACY, INCLUDING THE APPARATUS.
Production of Sugar, pp. 2–88. J. W. MALLET.
The Chemical Arts, pp. 89–98. J. F. KUHLMAN, FILS.
Finer Chemicals, including Coal-Tar Colors, pp. 98–120. J. W. MALLET.
Petroleum, pp. 121–174; Chemistry, pp. 174–178. J. LAWRENCE SMITH.
Reports on Awards, pp. 179–283.

GROUP IV.—ANIMAL AND VEGETABLE PRODUCTS, AND THE MACHINERY FOR THEIR PREPARATION.
Introduction, pp. 2, 3. R. T. BROWN.
Malt Liquors, pp. 3–14. GUIDO MARX.
Italian Wines, pp. 14–17. G. F. SECCHI DE CASALI.
Breadstuffs, pp. 17–20. WALTER S. GREENE.
Grain, pp. 22, 23. JOHN BRADFORD.
Preserved Meats, Fruits and Vegetables, Tea and Coffee, pp. 23–25. R. T. BROWN.
Tobacco, pp. 25–27. JOHN D. IMBODEN.
Tea exhibited by the Chinese Government, pp. 28–31. JOHN H. CATHERWOOD.
Dairy Products, pp. 31–43. L. B. ARNOLD.
Reports on Awards, pp. 45–324.

GROUP V.—FISH AND FISHING PRODUCTS; APPARATUS OF FISHING, ETC., pp. 2–23. B. PHILLIPS.
Reports on Awards, pp. 25–47.

GROUP VI.—TIMBER, WORKED LUMBER, PARTS OF BUILDINGS, FORESTRY, pp. 2–22. WM. H. BREWER.
Reports on Awards, pp. 23–53.

GROUP VII.—FURNITURE, UPHOLSTERY, WOODEN-WARE, BASKETS, ETC., pp. 2, 3. ADDISON BOYDEN.
Reports on Awards, pp. 5–42.

GROUP VIII.—COTTON, LINEN, AND OTHER FABRICS, pp. 2–9. ISAAC WATTS.
American Cotton and Cotton Manufactures, pp. 9–18. EDWARD ATKINSON.
Textile Machinery, pp. 18–22; Linens, pp. 23–26; Fibres, pp. 26–28. SAMUEL WEBBER.
Reports on Awards, pp. 29–80.

GROUP IX.—WOOL AND SILK FABRICS, INCLUDING THE MATERIALS AND THE MACHINERY, pp. 2–81; Silk and Silk Fabrics, pp. 81–116. JOHN L. HAYES.
Reports on Awards, pp. 117–187.

GROUP X.—CLOTHING, FURS, INDIA-RUBBER GOODS, ORNAMENTS, AND FANCY ARTICLES.
Rubber Hose, Rubber Belting, and Walrus Hide Belting, pp. 2–6. E. N. HORSFORD.
Caoutchouc and Gutta-Percha, pp. 7–17. W. H. CHANDLER.

Bureau of Awards. Authors of Reports.

Hats and Caps, pp. 18–27. MODEST KITTARY.
Reports on Awards, pp. 29–104.

GROUP XI.—JEWELRY, WATCH-CASES, SILVER-WARE, BRONZES, ETC., pp. 2–17. M. P. KENNARD.
Reports on Awards, pp. 19–39.

GROUP XII.—LEATHER AND MANUFACTURES OF LEATHER, pp. 2–13. THOMAS MILES.
Report of Expert on Leather Tests, pp. 13–34. THERON SKEEL.
Appendix, pp. 35–44.
Reports on Awards, pp. 45–92.

GROUP XIII.—PAPER INDUSTRY, STATIONERY, PRINTING, AND BOOK-MAKING, pp. 2–20. JAS. M. WILLCOX.
The Printing Press—Improvements during the Century, pp. 20–22. WM. FAXON.
Paper-making Machinery and Fibres, pp. 24–53. EDWARD CONLEY.
Reports on Awards, pp. 55–94.

GROUP XIV.—APPARATUS FOR HEATING, LIGHTING, VENTILATION, WATER-SUPPLY, DRAINAGE, ETC., pp. 2–40. AZEL AMES, JR.
Reports on Awards, pp. 41–79.

GROUP XV.—BUILDERS' HARDWARE, EDGE-TOOLS, CUTLERY, ETC.
Safes and Safe-Locks, etc., pp. 2–4. DANIEL STEINMETZ.
Edge-Tools, Cutlery, Polishing and Burnishing Materials, Metal Hollow-ware, and Ornamental Castings and Hardware, pp. 4–29. DAVID McHARDY.
Reports on Awards, pp. 31–55.

GROUP XVI.—MILITARY AND SPORTING ARMS, WEAPONS, EXPLOSIVES, ETC., pp. 2–59. HENRY L. ABBOT.
Reports on Awards, pp. 61–75.

GROUP XVII.—CARRIAGES, VEHICLES AND ACCESSORIES, pp. 2–7. THOMAS GODDARD.
Reports on Awards, pp. 9–31.

GROUP XVIII.—RAILWAY PLANT, ROLLING-STOCK AND APPARATUS; ROAD ENGINES.
Extract from the British Report on Railway Appliances, pp. 2–37. DOUGLASS GALTON, R.E.
Chilled Cast Wheels for Railways, pp. 38–51; Elliptic Springs, pp. 52–54; Improvements in Branches of the Pennsylvania Railroad, pp. 54–76. FELICIAN SLATAPER.
Reports on Awards, pp. 77–85.

GROUP XIX.—VESSELS AND APPARATUS OF TRANSPORTATION, pp. 2–5. F. H. RICH.
Ropes and Cordage, pp. 5–7. HENRY C. GOODSPEED.
Reports on Awards, pp. 9–16.

GROUP XX.—MOTORS, HYDRAULIC AND PNEUMATIC APPARATUS, ETC., pp. 2–121. CHAS. E. EMERY.
Motors and Transmitters, Hydraulic Apparatus, etc., pp. 122–130. W. H. BARLOW.
Tests of Steam-Boilers, including Reports of E. M. Hugentobler, pp. 131–266. CHAS. E. EMERY.

Bureau of Awards.
Authors of Reports.

Trial of Steam Fire-Engines, pp. 267–326. WELLINGTON LEE.
Tests of Turbine Water-Wheels, pp. 327–367. SAMUEL WEBBER.
Reports on Awards, pp. 369–424.

GROUP XXI.—MACHINE-TOOLS FOR METAL, WOOD, AND STONE, pp. 2–6. FRANÇOIS PERRIER (for the Group).
Reports on Awards, pp. 7–39.

GROUP XXII.—MACHINES, ETC., USED IN SEWING AND MAKING CLOTHING, pp. 2–45. GEORGE W GREGORY.
Watch-making Machinery, pp. 46–53. EDWARD H. KNIGHT.
Knitting Machines, pp. 53–59. GEORGE W. GREGORY.
Needle-making Machinery, pp. 59–61. EDWARD H. KNIGHT.
Reports on Awards, pp. 63–72.

GROUP XXIII.—AGRICULTURAL MACHINES, IMPLEMENTS OF AGRICULTURE, HORTICULTURE, AND GARDENING, pp. 2–49. JOHN COLEMAN.
Reports on Awards, pp. 51–104.

GROUP XXIV.—MEDICINE, SURGERY, PROTHESIS, pp. 2–67. J. H. THOMPSON.
Reports on Awards, pp. 69–90.

GROUP XXV.—INSTRUMENTS OF PRECISION, RESEARCH, EXPERIMENT, AND ILLUSTRATION, INCLUDING TELEGRAPHY AND MUSIC, pp. 2–8. J. E. HILGARD.
Optical Instruments, pp. 8–13. F. A. P. BARNARD.
Electrical Apparatus, pp. 13–27. JOSEPH HENRY.
Musical Instruments, pp. 27–56. HENRY K. OLIVER.
Horological Instruments, pp. 56–128. JAS. C. WATSON.
Reports on Awards, pp. 129–201.

GROUP XXVI.—ARCHITECTURE AND ENGINEERING.
The Architectural Exhibits of the International Exhibition and Building Materials, pp. 2–18. R. M. HUNT.
The Netherlands Exhibit of Public Works, pp. 18–24; The French Engineering Section, pp. 24–28. GEO. E. WARING, JR.
Architecture and Engineering, pp. 28–37. SIR JOHN HAWKSHAW.
Reports on Awards, pp. 39–74.

GROUP XXVII.—PLASTIC AND GRAPHIC ART.
Painting and Sculpture, pp. 2–35. JOHN F. WEIR.
Industrial and Architectural Designs; Interior Decorations; Artistic Hardware; Mosaics; Inlaid Work in Wood and Metal; Stained Glass, pp. 36–45. DONALD G. MITCHELL.
Reports on Awards, pp. 47–118.

GROUP XXVIII.—EDUCATIONAL SYSTEMS, METHODS, AND LIBRARIES, pp. 2–205. JOHN W. HOYT.
Common Schools in the United States, pp. 205–225. SIR CHARLES REED.
Printing and Publishing, pp. 225–267. RENÉ FOURET.
Leading Features of the Educational Exhibit, pp. 267–275. J. M. GREGORY.
Popular Instruction in Elementary Drawing, pp. 275–307. CHARLES B. STETSON.
Reports on Awards, pp. 309–384.

Bureau of Awards. Authors of Reports.

GROUP XXIX.—HORTICULTURE.	
Ornamental Flower-Gardening, pp. 2–15.	GEORGE THURBER.
Ornamental Trees and Shrubs, pp. 15–29.	WM. SAUNDERS.
Garden Plants, pp. 29–31.	W. D. BRACKENRIDGE.
Reports on Awards, pp. 33–46.	
GROUP XXX.—HORSES, pp. 1, 2.	THEODORE JUSTICE.
Reports on Awards, pp. 3–16.	
GROUP XXXI.—CATTLE.	
Jersey Cattle, pp. 1–4.	J. MILTON MACKIE.
Devons, pp. 4–7.	ASHBEL SMITH.
Ayrshires, p. 7.	WM. BIRNIE.
Short-Horns, pp. 7, 8.	T. C. JONES.
Reports on Awards, pp. 9–20	
GROUP XXXII.—SHEEP, pp. 1, 2.	GEORGE CAMPBELL.
Reports on Awards, pp. 3–9.	
GROUP XXXIII.—SWINE, pp. 1, 2.	W. RHODES.
Reports on Awards, pp. 3–6.	
GROUP XXXIV.—DOGS, pp. 1–3.	L. H. TWADDELL.
Reports on Awards, pp. 5–23.	
GROUP XXXV.—POULTRY, p. 1.	MARK PITMAN
Reports on Awards, pp. 3–26.	
GROUP XXXVI.—POMOLOGY, pp. 2–13.	THOMAS MEEHAN.
Reports on Awards, pp. 15–41.	

Editing Reports.

My own labor in the above connection has been limited chiefly to the correspondence involved in securing the various contributions, and to a very general revision. The technical, as well as the literary responsibility of editorship has fallen principally on Mr. Dorsey Gardner, Assistant Secretary of the Commission, who has given to the reports unwearied attention and care during their entire progress through the press.

Acknowledgments.

I should be doing a grave injustice did I not, in closing, acknowledge the assistance and support I have received in the somewhat trying and not peculiarly grateful task devolved upon me by my appointment to this Bureau, through the zeal, fidelity, and high intelligence of my secretary, Mr. W. J. Cheyney, and through the industry and efficiency of his principal clerk, Mr. Thomas F. Taylor. An office called into existence for a special purpose, built up at once wholly from the ground, with no traditions or prescriptions, with no corps of trained assistants, called to deal with nearly thirty thousand exhibitors rendered more or less exacting by the stimulus of public competition, with no time to create a wholesome routine of procedure, with no time, even, to resort to the usual checks and

Bureau of Awards.

safeguards of official action, is certain to encounter grave difficulties, alike at the start, and at many stages in its course.

In every strait these gentlemen have given me valuable support. The blame of whatever degree of failure has occurred is mine, though I may not unfairly plead the novelty and difficulty of the service exacted of me. The merit of success is very largely theirs, and it is a pleasure to attribute it to them.

EMPLOYEES IN THE BUREAU OF AWARDS.

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WM. M. POTTS.
F. A. GENTH.
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Messenger.

GEORGE B. CARFREY.

BUREAU OF AWARDS.—EXHIBIT A.

[No. 112.]

UNITED STATES CENTENNIAL COMMISSION.

INTERNATIONAL EXHIBITION,

1876.

SYSTEM OF CLASSIFICATION.

DEPARTMENT I.—MINING AND METALLURGY.

MINERALS, ORES, BUILDING STONES, AND MINING PRODUCTS.

CLASS 100.—Minerals, ores, etc. Metallic and non-metallic minerals, exclusive of coal and oil. Collections of minerals systematically arranged; collections of ores and associated minerals; geological collections.

CLASS 101.—Mineral combustibles. Coal, anthracite, semi-bituminous and bituminous, coal-waste, and pressed coal; albertite, asphalt, and asphaltic limestone; bitumen, mineral tar, crude petroleum.

CLASS 102.—Building stones, marbles, slates, etc. Rough, hewn, sawed, or polished, for buildings, bridges, walls, or other constructions, or for interior decoration, or for furniture.

Marble—white, black, or colored—used in building, decoration, statuary, monuments, or furniture, in blocks or slabs not manufactured.

CLASS 103.—Lime, cement, and hydraulic cement, raw and burned, accompanied by specimens of the crude rock or material used, also artificial stone, concrete, beton.

Specimens of lime mortar and mixtures, with illustrations of the processes of mixing, etc. Hydraulic and other cement.

Beton mixtures and results, with illustrations of the processes.

Artificial stone for building purposes, building blocks, cornices, etc.

Artificial stone mixtures, for pavements, walls, or ceilings.

Plasters, mastics, etc.

CLASS 104.—Clays, kaolin, silex, and other materials for the manufacture of porcelain faïence, and of glass, bricks, terra-cotta and tiles, and fire brick. Refractory stones for lining furnaces, sandstone, steatite, etc., and refractory furnace materials.

CLASS 105.—Graphite—crude and refined—for polishing purposes; for lubricating, electrotyping, photography, pencils, etc.

CLASS 106.—Lithographic stones, hones, whetstones, grindstones; grinding and polishing materials—sand quartz, garnet, crude topaz, diamond, corundum, emery in the rock and pulverized, and in assorted sizes and grades.

CLASS 107.—Mineral waters, artesian well water, natural brines, saline and alkaline efflorescences and solutions. Mineral fertilizing substances, gypsum, phosphate of lime, marls, shells, coprolites, etc., not manufactured.

METALLURGICAL PRODUCTS.

CLASS 110.—Precious metals.

CLASS 111.—Iron and steel in the pig, ingot, and bar, plates and sheets, with specimens of slags, fluxes, residues, and products of working.

CLASS 112.—Copper in ingots, bars, and rolled, with specimens illustrating its various stages of production.

CLASS 113.—Lead, zinc, antimony, and other metals, the result of extractive processes.

CLASS 114.—Alloys used as materials—brass, nickel, silver, solder, etc.

MINE ENGINEERING—MODELS, MAPS, AND SECTIONS.

CLASS 120.—Surface and underground surveying and plotting. Projection of underground work, location of shafts, tunnels, etc. Surveys for aqueducts, and for drainage.

Boring and drilling rocks, shafts, and tunnels, etc. Surveys for aqueducts, and for ascertaining the nature and extent of mineral deposits.

Construction. Sinking and lining shafts by various methods, driving and timbering tunnels, and the general operations of opening, stoping, and breaking down ore, timbering, lagging, and masonry.

Hoisting and delivering at the surface, rock, ore, or miners.

Pumping and draining by engines, buckets, or by adits.

Ventilation and lighting.

Subaqueous mining, blasting, etc.

Hydraulic mining, and the various processes and methods of sluicing and washing auriferous gravel, and other superficial deposits.

Quarrying.

CLASS 121.—Models of mines, of veins, etc.

DEPARTMENT II.—MANUFACTURES.

CHEMICAL.

CLASS 200.—Chemicals, pharmaceutical preparations.

Mineral acids, and the methods of manufacture. Sulphuric, nitric, and hydrochloric acids.

The common commercial alkalies—potash, soda, and ammonia, with their carbonates.

Salt and its production. Salt from deposits—native salt. Salt by solar evaporation from sea-water. Salt by evaporation from water of saline springs or wells. Rock salt. Ground and table salt.

Bleaching powders and chloride of lime.

Yeast powders, baking powders.

CLASS 201.—Oils, soaps, candles, illuminating and other gases.

Oils from mineral, animal, and vegetable sources. Refined petroleum, benzine, naphtha, and other products of the manufacture. Oils from various seeds, refined, and of various degrees of purity. Olive oil, cotton seed oil, palm oil. Animal oils, of various kinds, in their refined state. Oils prepared for special purposes besides lighting and for food. Lubricating oils.

Soaps and detergent preparations.

Candles—stearine, glycerine, paraffine, etc., spermaceti.

Illuminating gas and its manufacture.

Oxygen gas, and its application for heating, lighting, metallurgy, and as a remedial agent.

Chlorine and carbonic acid.

CLASS 202.—Paints, pigments, dyes, colors, turpentine, varnishes, printing inks, writing inks, blacking.

CLASS 203.—Flavoring extracts, essences, perfumery, pomades, cosmetics.

CLASS 204.—Explosive and fulminating compounds; in small quantities only, and under special regulations, shown in the building only by empty cases and cartridges. Black powder of various grades and sizes. Nitro-glycerine and the methods of using and exploding. Giant powder, dynamite, dualin, tri-nitro-glycerine.

CLASS 205.—Pyrotechnics, for display, signaling, missiles.

CERAMICS—POTTERY, PORCELAIN, ETC.

CLASS 206.—Bricks, drain-tiles, terra-cotta, and architectural pottery.

CLASS 207.—Fire-clay goods, crucibles, pots, furnaces. Chemical stoneware.

CLASS 208.—Tiles, plain, enameled, encaustic; geometric tiles and mosaics. Tiles for pavements and for roofing, etc.

CLASS 209.—Porcelain for purposes of construction—hardware trimmings, etc.

CLASS 210.—Stone china, for chemists, druggists, etc., earthenware, stoneware, faïence, etc.

CLASS 211.—Majolica and Palissy ware.

CLASS 212.—Biscuit-ware, parian, etc.

CLASS 213.—Porcelain for table and toilet use, and for decoration.

GLASS AND GLASS-WARE.

CLASS 214.—Glass used in construction and for mirrors. Window glass of various grades of quality and of size. Plate glass—rough, and ground or polished. Toughened glass.

CLASS 215.—Chemical and pharmaceutical glass-ware vials bottles.

CLASS 216.—Decorative glass-ware.

FURNITURE AND OBJECTS OF GENERAL USE IN CONSTRUCTION AND IN DWELLINGS.

CLASS 217.—Heavy furniture.—Chairs, tables, parlor and chamber suits, office and library furniture, vestibule furniture. Church furniture and decoration.

CLASS 218.—Table furniture.—Glass, china, silver, silver-plate, tea and coffee sets, urns, samovars, epergnes.

CLASS 219.—Mirrors, stained and enameled glass, cut and engraved window-glass, and other decorative objects.

CLASS 220.—Gilt cornices, brackets, picture frames, etc.

CLASS 221.—The nursery and its accessories; children's chairs, walking chairs.

CLASS 222.—Apparatus and fixtures for heating and cooking,—stoves, ranges, heaters, etc.

CLASS 223.—Apparatus for lighting,—gas fixtures, lamps, etc.

CLASS 224.—Kitchen and pantry—utensils, tin ware, and apparatus used in cooking, (exclusive of cutlery).

CLASS 225.—Laundry appliances, washing machines, mangles, clothes-wringers, clothes-bars, ironing-tables.

CLASS 226.—Bath room and water closet, shower bath, earth closet.

CLASS 227.—Manufactured parts of buildings—sash, blinds, mantels, metal work, etc.

YARNS AND WOVEN GOODS OF VEGETABLE OR MINERAL MATERIALS.

CLASS 228.—Woven fabrics of mineral origin.—Wire cloths, sieve cloth, wire screens, bolting cloth.

Asbestos fibre, spun and woven, with the clothing manufactured from it.

Glass thread, floss and fabrics.

CLASS 229.—Coarse fabrics, of grass, rattan, cocoanut, and bark.

Mattings—Chinese, Japanese, palm leaf, grass, and rushes.

Floor cloths of rattan and cocoanut fibre, aloe fibre, etc.

CLASS 230.—Cotton yarns and fabrics, bleached and unbleached.

Cotton sheeting and shirting, plain and twilled.

Cotton canvas and duck. Awnings, tents.

CLASS 231.—Dyed cotton fabrics, exclusive of prints and calicoes.

CLASS 232.—Cotton prints and calicoes, including handkerchiefs, scarfs, etc.

CLASS 233.—Linen and other vegetable fabrics, uncolored or dyed.

CLASS 234.—Floor oil cloths, and other painted and enameled tissues, and imitation of leather with a woven base.

WOVEN AND FELTED GOODS OF WOOL AND MIXTURES OF WOOL.

CLASS 235.—Card wool fabrics.—Yarns, broadcloth, doeskins, fancy cassimeres. Felted goods.

CLASS 236.—Flannels.—Plain flannels, domets, opera and fancy.

CLASS 237.—Blankets, robes, and shawls.

CLASS 238.—Combined wool fabrics.—Worsteds, yarns, dress goods for women's wear, delaines, serges, poplins, merinoes.

CLASS 239.—Carpets, rugs, etc.—Brussels, melton, tapestry, tapestry brussels, axminster, venetian, ingrain, felted carpetings, druggets, rugs, etc.

CLASS 240.—Hair, alpaca, goat's hair, camel's hair, and other fabrics, mixed or unmixed with wool.

CLASS 241.—Printed and embossed woolen cloths, table covers, patent velvets.

SILK AND SILK FABRICS, AND MIXTURES IN WHICH SILK IS THE PREDOMINATING MATERIAL.

CLASS 242.—Cocoons and raw silk as reeled from the cocoon, thrown or twisted silks in the gum.

CLASS 243.—Thrown or twisted silks, boiled off or dyed, in hanks, skeins, or on spools.

CLASS 244.—Spun silk yarns and fabrics, and the materials from which they are made.

CLASS 245.—Plain woven silks, lutestrings, sarsnets, satins, serges, foulards, tissues for hat and millinery purposes, etc.

CLASS 246.—Figured silk piece goods, woven or printed. Upholstery silks, etc.

CLASS 247.—Crapes, velvets, gauzes, cravats, handkerchiefs, hosiery, knit goods, laces, scarfs, ties, veils, all descriptions of cut and made up silks.

CLASS 248.—Ribbons, plain, fancy, and velvet.

CLASS 249.—Bindings, braids, cords, galloons, ladies' dress trimmings, upholsterers', tailors', military, and miscellaneous trimmings.

CLOTHING, JEWELRY, AND ORNAMENTS, TRAVELING EQUIPMENTS.

CLASS 250.—Ready-made clothing, knit goods and hosiery, military clothing, church vestments, costumes, water-proof clothing, and clothing for special objects.

CLASS 251.—Hats, caps, boots and shoes, gloves, mittens, etc., straw and palm leaf hats, bonnets and millinery.

CLASS 252.—Laces, embroideries, and trimmings for clothing, furniture, and carriages.

CLASS 253.—Jewelry and ornaments worn upon the person.

CLASS 254.—Artificial flowers, coiffures, buttons, trimmings, pins, hooks and eyes, fans, umbrellas, sun-shades, walking-canes, pipes, and small objects of dress or adornment, exclusive of jewelry. Toys and fancy articles.

CLASS 255.—Fancy leather work, pocket-books, toilet cases, traveling equipments, valises and trunks.

CLASS 256.—Furs.

CLASS 257.—Historical collections of costumes, national costumes.

PAPER, BLANK BOOKS, AND STATIONERY.

CLASS 258.—Stationery for the desk, stationers' articles, pens, pencils, ink stands, and other apparatus of writing and drawing.

CLASS 259.—Writing paper and envelopes, blank-book paper, bond paper, tracing paper, tracing linen, tissue paper, etc.

CLASS 260.—Printing paper for books, newspapers, etc.

Wrapping paper of all grades, cartridge and manilla paper, paper bags.

CLASS 261.—Blank books; sets of account books, specimens of ruling and binding, including blanks, bill heads, etc., book binding.

CLASS 262.—Cards; playing cards, card board, binders' board, pasteboard, paper or card board boxes.

CLASS 263.—Building paper, pasteboard for walls, cane fibre felt for car wheels, ornaments, etc.

CLASS 264.—Wall papers, enameled and colored papers, imitations of leather, wood, etc.

MILITARY AND NAVAL ARMAMENTS, ORDNANCE, FIRE ARMS, AND HUNTING APPARATUS.

CLASS 265.—Military small-arms, muskets, pistols, and magazine-guns, with their ammunition.

CLASS 266.—Light artillery, compound guns, machine guns, mitrailleuses, etc.

CLASS 267.—Heavy ordnance and its accessories.

CLASS 268.—Knives, swords, spears, and dirks.

CLASS 269.—Fire arms used for sporting and hunting, also other implements for the same purpose.

CLASS 270.—Traps for game, birds, vermin, etc.

MEDICINE, SURGERY, PROTHESIS.

CLASS 272.—Medicines; officinal (in any authoritative pharmacopœia), articles of the materia medica, preparations, unofficinal.

CLASS 273.—Dietetic preparations, as beef extract and other articles intended especially for the sick.

CLASS 274.—Pharmaceutical apparatus.

CLASS 275.—Instruments for physical diagnosis, clinical thermometers, stethoscopes, ophthalmoscopes, etc. (except clinical microscopes, etc., for which see Class 324).

CLASS 276.—Surgical instruments and appliances, with dressings, apparatus for deformities, prothesis, obstetrical instruments.

CLASS 277.—Dental instruments and appliances.

CLASS 278.—Vehicles and appliances for the transportation of the sick and wounded, during peace and war, on shore or at sea.

HARDWARE, EDGE TOOLS, CUTLERY, AND METALLIC PRODUCTS.

CLASS 280.—Hand tools and instruments used by carpenters, joiners, and for wood and stone in general. Miscellaneous hand tools used in industries, such as jewelers', engravers'.

CLASS 281.—Cutlery, knives, penknives, scissors, razors, razor-strops, skates, and implements sold by cutlers.

CLASS 282.—Emery and sand paper, polishing powders, polishing and burnishing stones.

CLASS 283.—Metal hollow-ware, ornamental castings.

CLASS 284.—Hardware used in construction, exclusive of tools and implements. Spikes, nails, screws, tacks, bolts, locks, latches, hinges, pulleys. Plumbers' and gas fitters' hardware, furniture fittings, ships' hardware, saddlers' hardware, and harness fittings and trimmings.

FABRICS OF VEGETABLE, ANIMAL, OR MINERAL MATERIALS.

CLASS 285.—India rubber goods and manufactures.

CLASS 286.—Brushes.

CLASS 287.—Ropes, cordage.

CLASS 288.—Flags, insignia, emblems.

CLASS 289.—Wooden and basket ware, papier maché.

CLASS 290.—Undertakers' furnishing goods, caskets, coffins, etc.

CLASS 291.—Galvanized iron work.

CARRIAGES, VEHICLES, AND ACCESSORIES.

(For farm vehicles and railway carriages, see Departments of Agriculture and Machinery.)

CLASS 292.—Pleasure carriages.

CLASS 293.—Traveling carriages, coaches, stages, omnibuses, hearses. Bath chairs, velocipedes, baby carriages.

CLASS 294.—Vehicles for movement of goods and heavy objects, carts, wagons, trucks.

CLASS 295.—Sleighs, sledges, sleds, etc.

CLASS 296.—Carriage and horse furniture, harness and saddlery, whips, spurs, horse blankets, carriage robes, rugs, etc.

DEPARTMENT III.—EDUCATION AND SCIENCE.

EDUCATIONAL SYSTEMS, METHODS, AND LIBRARIES.

CLASS 300.—Elementary instruction. Infant schools and kindergartens, arrangements, furniture, appliances, and modes of training.

Public schools, graded schools, buildings and grounds, equipments, courses of study, methods of instruction, text books, apparatus, including maps, charts, globes, etc.; pupils' work, including drawing and penmanship; provisions for physical training.

CLASS 301.—Higher education. Academies and high schools.

Colleges and universities. Buildings and grounds; libraries, museums of zoology, botany, mineralogy, art, and archæology; apparatus for illustration and research, mathematical, physical, chemical, and astronomical courses of study; text books, catalogues, libraries, and gymnasiums.

CLASS 302.—Professional schools, theology, law, medicine and surgery, dentistry, pharmacy, mining and engineering, agriculture and mechanical arts, art and design, military schools, naval schools, normal schools, commercial schools, music.

Buildings, text books, libraries, apparatus, methods, and other accessories for professional schools.

CLASS 303.—Institutions for instruction of the blind, deaf, and dumb, and the feeble-minded.

CLASS 304.—Education reports and statistics.

National bureau of education.

State, city, and town systems.

College, university, and professional systems.

CLASS 305.—Libraries, history, reports, statistics, and catalogues.

CLASS 306.—School and text books, dictionaries, encyclopædias, gazetteers, directories, index volumes, bibliographies, catalogues, almanacs, special treatises, general and miscellaneous literature, newspapers, technical and special newspapers and journals, illustrated papers, periodical literature.

INSTITUTIONS AND ORGANIZATIONS.

CLASS 310.—Institutions founded for the increase and diffusion of knowledge. Such as the Smithsonian Institution, the Royal Institution, the Institute of France, British Association for the Advancement of Science, and the American Association, etc., their organization, history, and results.

CLASS 311.—Learned and scientific associations. Geological and mineralogical societies, etc. Engineering, technical, and professional associations. Artistic, biological, zoological, medical schools, astronomical observatories.

CLASS 312.—Museums, collections, art galleries, exhibitions of works of art and industry. Agricultural fairs, state and county exhibitions, national exhibitions. International exhibitions.

Scientific museums, and art museums.

Æthnological and archæological collections.

CLASS 313.—Music and the drama.

SCIENTIFIC AND PHILOSOPHICAL INSTRUMENTS AND METHODS.

CLASS 320.—Instruments of precision, and apparatus of physical research, experiment, and illustration.

Astronomical instruments, and accessories, used in observatories.

Transits, mural circles, equatorials, collimators.

Geodetic and surveying instruments. Transits, theodolites, needle compasses. Instruments for surveying underground in mines, tunnels, and excavations.

Nautical astronomical instruments. Sextants, quadrants, repeating circles, dip-sectors.

Leveling instruments and apparatus. Carpenters' and builders' levels, hand levels, water levels, engineers' levels.

Instruments for deep sea sounding and hydrographic surveying.

Meteorological instruments and apparatus.

Thermometers, pyrometers.

Barometers.

Hygrometers and rain-gauges.

Maps, bulletins.

Blanks for reports, methods of recording, reducing, and reporting observations.

CLASS 321.—Indicating and registering apparatus, other than meteorological; mechanical calculation.

Viameters, pedometers, perambulators.

Gas meters.

Water meters, current meters, ships' logs, electrical logs.

Tide registers.

Apparatus for printing consecutive numbers.

Counting machines, calculating engines, arithmometers.

CLASS 322.—Weights, measures, weighing and metrological apparatus.

Measures of length; graduated scales on wood, metal, ivory, tape, or ribbon; steel tapes, chains, rods, verniers, rods and graduated scales for measuring lumber, goods in packages, casks, etc., gaugers' tools and methods.

Measures of capacity for solids and liquids.

Weights. Scales and graduated beams for weighing; assay balances, chemical balances. Ordinary scales for heavy weights; weighing locomotives and trains of cars. Postal balances. Hydrometers, alcoometers, lactometers, etc.; gravimeters.

CLASS 323.—Chronometric apparatus.

Chronometers. Astronomical clocks. Church and metropolitan clocks. Ordinary commercial clocks. Pendulum and spring clocks. Marine clocks. Watches. Clepsydras, hour glasses, sun dials. Chronographs, electrical clocks. Metronomes.

CLASS 324.—Optical and thermotic instruments, and apparatus.

Mirrors, plane and spherical.

Lenses and prisms.

Spectacles and eye glasses, field and opera glasses, graphoscopes and stereoscopes.

Cameras and photographic apparatus.

Microscopes.

Telescopes.

Apparatus for artificial illumination, including electric, oxyhydrogen and magnesium light.

Stereopticons.

Photometric apparatus.

Spectroscopes and accessories for spectrum analysis.

Polariscopes, etc.

Thermotic apparatus.

CLASS 325.—Electrical apparatus.

Friction machines.

Condensers and miscellaneous apparatus to illustrate the discharge.

Galvanic batteries and accessories to illustrate dynamical electricity.

Electro-magnetic apparatus.

Induction machines, Rumkorff coils, etc.

Magnets and magneto-electrical apparatus.

CLASS 326.—Telegraphic instruments and methods.

Batteries and forms of apparatus used in generating the electrical currents for telegraphic purposes.

Conductors and insulators, and methods of support; marine telegraph cables.

Apparatus of transmission—keys, office accessories, and apparatus.

Receiving instruments, relay magnets, local circuits.

Semaphoric and recording instruments.

Codes, signs, or signals.

Printing telegraphs for special uses.

Electrographs.

Dial or cadran systems.

Apparatus for automatic transmission.

CLASS 327.—Musical instruments and acoustic apparatus.

Percussion instruments—drums, tamborines, cymbals, triangles.

Pianos.

Stringed instruments other than pianos.

Automatic musical instruments, music boxes.

Wind instruments of metal and of wood.

Harmoniums.

Church organs and similar instruments.

Speaking machines.

Vocal music.

ENGINEERING, ARCHITECTURE, CHARTS, MAPS, AND GRAPHIC REPRESENTATIONS.

(For Agricultural Engineering, see Class 680.)

(For Mining Engineering, see Class 120.)

CLASS 330.—Civil engineering. Land surveying, public lands, etc.

River, harbor, and coast surveying. Construction and maintenance of roads, streets, pavements, etc. Surveys and location of towns and cities, with systems of water supply and drainage. Arched bridges of metal, stone, brick, or beton. Trussed girder bridges. Suspension bridges. Canals, aqueducts, reservoirs, construction of dams. Hydraulic engineering, and means of arresting and controlling the flow of water.

Submarine constructions, foundations, piers, docks, etc.

CLASS 331.—Dynamic and industrial engineering. Construction and working of machines; examples of planning and construction of manufacturing and metallurgical establishments.

CLASS 332.—Railway engineering. Location of railways, and the construction and management of railways.

CLASS 333.—Military engineering.

CLASS 334.—Naval engineering.

CLASS 335.—Topographical maps. Marine and coast charts.

Geological maps and sections.

Botanical, agronomical, and other maps, showing the extent and distribution of men, animals, and terrestrial products. Physical maps.

Meteorological maps and bulletins. Telegraphic routes and stations. Railway and route maps. Terrestrial and celestial globes. Relief maps and models of portions of the earth's surface. Profiles of ocean beds and routes of submarine cables.

PHYSICAL, SOCIAL, AND MORAL CONDITION OF MAN.

CLASS 340.—Physical development and condition.

The nursery and its accessories.

Gymnasiums, games, and manly sports. Skating, walking, climbing, ball-playing, acrobatic exercises; rowing, hunting, etc.

CLASS 341.—Alimentation. Markets; preparation and distribution of food.

CLASS 342.—The dwelling—sanitary conditions and regulations. Domestic architecture.

Dwellings characterized by cheapness, combined with the conditions essential to health and comfort.

Fire-proof structures.

Hotels, club-houses, etc.

Public baths.

CLASS 343.—Commercial systems and appliances.

Mercantile forms and methods, counting-houses and offices.

Banks and banking.

Saving and trust institutions.

Insurance; fire, marine, life, etc.

Commercial organizations, boards of trade, merchants', produce, and stock exchanges.

Corporations for commercial and manufacturing purposes.

Railway and other transportation companies.

Building and loan associations.

CLASS 344.—Money.—Mints and coining.

Collections of current coins.

Historical collections.

Tokens, etc.

Bank notes and other paper circulating mediums.

Commercial paper, bills of exchange, etc.

Securities for payment of money, stocks, bonds, mortgages, ground rents, quit rents.

Precautions against counterfeiting and misappropriation of money.

CLASS 345.—Government and law.—Various systems of government.

Departments of government. Revenue and taxation, military organization, executive powers, legislative forms and authority, judicial functions and systems, police regulations, government charities. .

International relations; international law; diplomatic and consular service, etc., allegiance and citizenship; naturalization.

Codes.

Municipal government.

Protection of property in inventions.

Postal systems and appliances.

Punishment of crime.

Prisons and prison management and discipline; police stations; houses of correction; reform schools; naval or marine discipline; punishment at sea.

CLASS 346.—Benevolence.—General hospitals.

Special hospitals for the eye and ear, for women, etc.

Hospitals for contagious and infectious diseases.

Hospitals for the insane—under State control, and private asylums.

Quarantine systems and organizations.

Sanitary regulations of cities.

Dispensaries.

Inebriate asylums.

Lying-in asylums.

Magdalen asylums.

Asylums for infants and children. Foundling and orphan asylums, children's aid societies.

Homes for the aged and infirm; homes for aged men and women; soldiers' homes; homes for the maimed and deformed; sailors' homes.

Treatment of paupers. Almshouses, feeding the poor, lodging houses.

Emigrant aid societies.

Treatment of aborigines.

Prevention of cruelty to animals.

CLASS 347.—Co-operative associations.

Political societies and organizations.

Military organizations and orders.

Trade unions and associations.

Industrial organizations.

Secret orders and fraternities.

CLASS 348.—Religious organizations and systems.—Origin, nature, growth, and extent of various religious systems and faiths. Statistical, historical, and other facts.

Religious orders and societies, and their objects.

Societies and organizations for the propagation of systems of religion by missionary effort.

Spreading the knowledge of religious systems by publications.

Bible societies, tract societies, colportage.

Systems and methods of religious instruction and training for the young.

Sunday-schools, furniture and apparatus.

Associations for religious or moral improvement.

Dispensing charities, church guilds.

CLASS 349.—Art and industrial exhibitions.—Agricultural fairs, state and county exhibitions, national exhibitions, international exhibitions, international congresses, etc.

DEPARTMENT IV.—ART.

SCULPTURE.

CLASS 400.—Figures and groups in stone, metal, clay or plaster.

CLASS 401.—Bas-reliefs, in stone or metal; electrotype copies.

CLASS 402.—Medals pressed and engraved; electrotypes of medals.

CLASS 403.—Hammered and wrought work—*repoussé* and *rehaussé* work, embossed and engraved relief work.

CLASS 404.—Cameos, intaglios, engraved stones, dies, seals, etc.

CLASS 405.—Carvings in wood, ivory, and metal.

PAINTING.

CLASS 410.—Paintings in oil on canvas, panels, etc.

CLASS 411.—Water color pictures; aquarelles, miniatures, etc.

CLASS 412.—Frescoes, cartoons for frescoes, etc.

CLASS 413.—Painting with vitrifiable colors. Pictures on porcelain, enamel, and metal.

ENGRAVING AND LITHOGRAPHY.

CLASS 420.—Drawings with pen, pencil, or crayons.

CLASS 421.—Line engravings from steel, copper, or stone.

CLASS 422.—Wood engravings.

CLASS 423.—Lithographs, zincographs, etc.

CLASS 424.—Chromo-lithographs.

PHOTOGRAPHY.

CLASS 430.—Photographs on paper, metal, glass, wood, fabrics, or enamel surfaces.

CLASS 431.—Prints from photo-relief plates, carbon-prints, etc.

CLASS 432.—Photo-lithographs, etc.

INDUSTRIAL AND ARCHITECTURAL DESIGNS, MODELS, AND DECORATIONS.

CLASS 440.—Industrial designs.

CLASS 441.—Architectural designs; studies and fragments, representations and projects of edifices; restorations from ruins and from documents.

CLASS 442.—Decoration of interiors of buildings.

CLASS 443.—Artistic hardware and trimmings; artistic castings, forged metal work for decoration, etc.

DECORATION WITH CERAMIC AND VITREOUS MATERIALS; MOSAIC AND INLAID WORK.

CLASS 450.—Mosaic and inlaid work in stone.

CLASS 451 —Mosaic and inlaid work in tiles, tesseræ, glass, etc.

CLASS 452.—Inlaid work in wood and metal, parquetry, inlaid floors, tables, etc.

CLASS 453.—Stained glass.

CLASS 454.—Miscellaneous objects of art.

DEPARTMENT V.—MACHINERY.

MACHINES, TOOLS, AND APPARATUS OF MINING, METALLURGY, CHEMISTRY, AND THE EXTRACTIVE ARTS.

CLASS 500.—Rock drilling.

CLASS 501.—Well and shaft boring.

CLASS 502.—Machines, apparatus, and implements for coal cutting.

CLASS 503 —Hoisting machinery and accessories.

CLASS 504.—Pumping, draining, and ventilating.

CLASS 505.—Crushing, grinding, sorting, and dressing. Breakers, stamps, mills, pans, screens, sieves, jigs, concentrators.

CLASS 506.—Furnaces, smelting apparatus, and accessories.

CLASS 507.—Machinery used in Bessemer process.

CLASS 508.—Chemical manufacturing machinery. Electroplating.

CLASS 509.—Gas machinery and apparatus.

MACHINES AND TOOLS FOR WORKING METAL, WOOD, AND STONE.

CLASS 510.—Planing, sawing, veneering, grooving, mortising, tonguing, cutting, moulding, stamping, carving, and cask-making machines, etc., cork-cutting machines.

CLASS 511.—Direct-acting steam sawing machines, with gang saws.

CLASS 512.—Rolling mills, bloom squeezers, blowing fans.

CLASS 513.—Furnaces and apparatus for casting metals, with specimens of work.

CLASS 514 —Steam, trip, and other hammers, with specimens of work, anvils, forges.

CLASS 515.—Planing, drilling, slotting, turning, shaping, punching, stamping, and cutting machines. Wheel cutting and dividing machines, emery wheels, drills, taps, gauges, dies, etc.

CLASS 516.—Stone-sawing and planing machines, dressing, shaping, and polishing, sand blasts, Tilghman's machines, glass-grinding machines, etc.

CLASS 517.—Brick, pottery, and tile machines. Machines for making artificial stone.

CLASS 518.—Furnaces, moulds, blow pipes, etc., for making glass and glass-ware.

MACHINES AND IMPLEMENTS OF SPINNING, WEAVING, FELTING, AND PAPER MAKING.

CLASS 520.—Machines for the manufacture of silk goods.

CLASS 521.—Machines for the manufacture of cotton goods.

CLASS 522.—Machines for the manufacture of woolen goods.

CLASS 523.—Machines for the manufacture of linen goods.

CLASS 524.—Machines for the manufacture of rope and twine, and miscellaneous fibrous materials.

CLASS 525.—Machines for the manufacture of paper, and felting.

CLASS 526.—Machines for the manufacture of india-rubber goods.

CLASS 527.—Machines for the manufacture of mixed fabrics.

MACHINES, APPARATUS, AND IMPLEMENTS USED IN SEWING AND MAKING CLOTHING AND ORNAMENTAL OBJECTS.

CLASS 530.—Machines used in the manufacture of tapestry, including carpets, lace, floor-cloth, fancy embroidery, etc.

CLASS 531.—Sewing and knitting machines, clothes making machines.

CLASS 532.—Machines for preparing and working leather.

CLASS 533.—Machines for making boots and shoes.

CLASS 534.—Machines for ironing, drying, and scouring.

CLASS 535.—Machines for making clocks and watches.

CLASS 536.—Machines for making jewelry.

CLASS 537.—Machines for making buttons, pins, needles, etc.

MACHINES AND APPARATUS FOR TYPE SETTING, PRINTING, STAMPING, EMBOSSING, AND FOR MAKING BOOKS, AND PAPER WORKING.

CLASS 540.—Printing presses.

CLASS 541.—Type-casting machines, apparatus of stereotyping.

CLASS 542.—Types and type-setting machines. Type-writing machines.

CLASS 543.—Printers' furniture.

CLASS 544.—Book-binding machines.

CLASS 545.—Paper-folding machines.

CLASS 546.—Paper and card cutting machines.

CLASS 547.—Envelope machines.

MOTORS AND APPARATUS FOR THE GENERATION AND TRANSMISSION OF POWER.

CLASS 550.—Boilers and all steam or gas-generating apparatus for motive purposes.

CLASS 551.—Water-wheels, water engines, hydraulic rams, wind-mills.

CLASS 552.—Steam, air, or gas engines, electro-magnetic engines.

CLASS 553.—Apparatus for the transmission of power—shafting, belting, cables, transmission of power by compressed air, etc., gearing, cables.

CLASS 554.—Screw propellers, wheels for the propulsion of vessels and other motors.

CLASS 555.—Implements and apparatus used in connection with motors, steam gauges, manometers, etc.

HYDRAULIC AND PNEUMATIC APPARATUS, PUMPING, HOISTING, AND LIFTING.

CLASS 560.—Pumps and apparatus for lifting and moving liquids.

CLASS 561.—Pumps and apparatus for moving and compressing air or gas.

CLASS 562.—Pumps and blowing engines, blowers, and ventilating apparatus.

CLASS 563.—Hydraulic jacks, presses, elevators, lifts, meters, cranes.

CLASS 564.—Fire engines—hand, steam, or chemical; and fire extinguishing apparatus—hose, ladders, fire-escapes, etc.

CLASS 565.—Beer engines, soda-water machines, bottling apparatus, corking machines.

CLASS 566.—Stop valves, cocks, pipes, etc.

CLASS 567.—Diving apparatus and machinery.

CLASS 568.—Ice machines.

RAILWAY PLANT, ROLLING STOCK, AND APPARATUS.

CLASS 570.—Locomotives, models, drawings, plans, etc.

CLASS 571.—Carriages, wagons, trucks, cars, etc.

CLASS 572.—Brakes, buffers, couplings, and snow-plows.

CLASS 573.—Wheels, tires, axles, bearings, springs, etc.

CLASS 574.—Permanent ways, ties, chairs, switches, etc.

CLASS 575.—Station arrangements, signals, water-cranes, turn-tables.

CLASS 576.—Miscellaneous locomotive attachments.

CLASS 577.—Street railways and cars.

MACHINES USED IN PREPARING AGRICULTURAL PRODUCTS.

CLASS 580.—Flour-mills.

CLASS 581.—Sugar refining machines.

CLASS 582.—Confectioners' machinery.

CLASS 583.—Oil-making machinery.

CLASS 584.—Tobacco-manufacturing machines.

CLASS 585.—Mills for spices, coffee, etc.

AERIAL, PNEUMATIC, AND WATER TRANSPORTATION.

CLASS 590.—Suspended-cable railways.

CLASS 591.—Transporting cables.

CLASS 592.—Balloons, flying-machines, etc.

CLASS 593.—Pneumatic railways, pneumatic dispatch.

CLASS 594.—Boats and sailing vessels. Sailing vessels used in commerce. Sailing vessels used in war. Yachts and pleasure boats. Rowing boats of all kinds. Life boats and salvage apparatus, with life rafts, belts, etc. Submarine armor, diving bells, etc. Ice boats.

CLASS 595.—Steamships, steamboats, and all vessels propelled by steam.

CLASS 596.—Vessels for carrying telegraph cables, and railway trains, also coal barges, water boats, and dredging-machines, screw and floating-docks, and for other special purposes.

CLASS 597.—Steam capstans, windlass, deck-winches, and steering apparatus, fans.

MACHINERY AND APPARATUS ESPECIALLY ADAPTED TO THE REQUIREMENTS OF THE EXHIBITION.

Boilers, engines, cranes, pumps, etc.

DEPARTMENT VI.—AGRICULTURE.

ARBORICULTURE AND FOREST PRODUCTS.

CLASS 600.—Timber and trunks of trees, entire or in transverse or truncated sections, with specimens of barks, leaves, flowers, seed vessels, and seed.

Masts, spars, knees, longitudinal sections of trees, railway ties, ship timber, lumber roughly sawn; as planks, shingles, lath, and staves.

Timber and lumber prepared in various ways to resist decay and combustion; as by injection of salts of copper and zinc.

Class 601.—Ornamental woods used in decorating and for furniture; as veneers of mahogany, rosewood, ebony, walnut, maple, and madrona.

Class 602.—Dye-woods, barks, and galls, for coloring and tanning.

Class 603.—Gums, resins, caoutchouc, gutta-percha, vegetable wax.

Class 604.—Lichens, mosses, fungi, pulu, ferns.

Class 605.—Seeds, nuts, etc., for food and ornamental purposes.

Class 606.—Forestry.—Illustrations of the art of planting, managing, and protecting forests. Statistics.

POMOLOGY.

Class 610.—Fruits of temperate and semi-tropical regions; as apples, pears, quinces, peaches, nectarines, apricots, plums, grapes, cherries, strawberries, and melons.

Class 611.—Tropical fruits and nuts, oranges, bananas, plantains, lemons, pine-apples, pomegranates, figs, cocoanuts.

AGRICULTURAL PRODUCTS.

Class 620.—Cereals, grasses, and forage plants.

Class 621.—Leguminous plants, and esculent vegetables.

Class 622.—Roots and tubers.

Class 623.—Tobacco, hops, tea, coffee, and spices.

Class 624.—Seeds and seed vessels.

LAND ANIMALS.

Class 630.—Horses, asses, mules.

Class 631.—Horned cattle.

Class 632.—Sheep.

Class 633.—Goats, alpaca, llama, camel.

Class 634.—Swine.

Class 635.—Poultry and birds.

Class 636.—Dogs and cats.

Class 637.—Wild animals.

Class 638.—Insects, useful and injurious. Honey bees, cochineal, silk worms.

MARINE ANIMALS, FISH CULTURE, AND APPARATUS.

Class 640.—Marine mammals—seals, cetaceans, etc., specimens living in aquaria, or stuffed, salted, preserved in alcohol or otherwise.

Class 641.—Fishes, living or preserved.

Class 642.—Pickled fish, and parts of fish used for food.

Class 643.—Crustaceans, echinoderms, beche de mer.

Class 644.—Mollusks, oysters, clams, etc., used for food.

Class 645.—Shells, corals, and pearls.

Class 646.—Whalebone, shagreen, fish-glue, isinglass, sounds, fish-oil.

Class 647.—Instruments and apparatus of fishing—nets, baskets, hooks, and other apparatus used in catching fish.

Class 648.—Fish culture—aquaria, hatching pools, vessels for transporting roe and spawn, and other apparatus used in fish breeding, culture, or preservation.

ANIMAL AND VEGETABLE PRODUCTS.

(Used as food or as materials.)

CLASS 650.—Sponges, sea-weed, and other growths used for food or in the arts.

CLASS 651.—The dairy—milk, cream, butter, cheese.

CLASS 652.—Hides, furs, and leather, tallow, oil, and lard, ivory, bone, horn, glue.

CLASS 653.—Eggs, feathers, down.

CLASS 654.—Honey and wax.

CLASS 655.—Animal perfumes—as musk, civet, ambergris.

CLASS 656.—Preserved meats, vegetables, and fruits. Dried, or in cans or jars. Meat and vegetable extracts.

CLASS 657.—Flour; crushed and ground cereals, decorticated grains.

CLASS 658.—Starch and similar products.

CLASS 659.—Sugar and syrups.

CLASS 660.—Wines, alcohol, and malt liquors.

CLASS 661.—Bread, biscuits, crackers, and cakes.

CLASS 662.—Vegetable oils.

TEXTILE SUBSTANCES OF VEGETABLE OR ANIMAL ORIGIN.

CLASS 665.—Cotton on the stem, in the boll, ginned, and baled.

CLASS 666.—Hemp, flax, jute, ramie, etc., in primitive forms and in all stages of preparation for spinning.

CLASS 667.—Wool in the fleece, carded, and in bales.

CLASS 668.—Silk in the cocoon and reeled.

CLASS 669.—Hair, bristles.

MACHINES, IMPLEMENTS, AND PROCESSES OF MANUFACTURE.

CLASS 670.—Tillage.—Manual implements—spades, hoes, rakes. Animal power machinery—plows, cultivators, horse-hoes, clod-crushers, rollers, harrows. Steam power machinery—plows, breakers, harrows, cultivators.

CLASS 671.—Planting.—Manual implements—corn-planters and hand-drills. Animal power machinery—grain and manure drills, corn and cotton planters. Steam power machinery—grain and manure drills.

CLASS 672.—Harvesting.—Manual implements—grain-cradles, sickles, reaping-hooks. Animal power machinery—reapers and headers. Mowers, tedders, rakes, hay elevators, and hay loaders.

Potato diggers.

CLASS 673.—Preparatory to marketing.—Thrashers, clover-hullers, corn-shellers, winnowers, hay, cotton, wine, oil, and sugar making apparatus.

CLASS 674.—Applicable to farm economy.—Portable and stationary engines, chaffers, hay and feed cutters, slicers, pulpers, corn mills, farm boilers and steamers, incubators.

CLASS 675.—Dairy fittings and appliances.—Churns for hand and power, butter-workers, cans and pails, cheese-presses, vats, and apparatus.

AGRICULTURAL ENGINEERING AND ADMINISTRATION.

CLASS 680.—Laying out and improving farms.—Clearing (stump extractors), construction of roads, draining, irrigating, models of fences, gates, drains, out-falls, dams, embankments, irrigating machinery, stack building and thatching.

CLASS 681.—Commercial fertilizers,—phosphatic, ammoniacal, calcareous, etc.

Class 682.—Transportation.—Wagons, carts, sleds, harness, yokes, traction engines, and apparatus for road making and excavating.

Class 683.—Farm buildings.—Models and drawings of farm houses and tenements, barns, stables, hop-houses, fruit-driers, ice-houses, wind-mills, granaries, barracks, apiaries, cocooneries, aviaries, abattoirs, and dairies.

TILLAGE AND GENERAL MANAGEMENT.

Class 690.—Systems of planting and cultivation.

Class 691.—Systems of draining and application of manures.

Class 692.—Systems of breeding and stock feeding.

DEPARTMENT VII.—HORTICULTURE.

ORNAMENTAL TREES, SHRUBS, AND FLOWERS.

Class 700.—Ornamental trees and shrubs, evergreens.

Class 701.—Herbaceous perennial plants.

Class 702.—Bulbous and tuberous-rooted plants.

Class 703.—Decorative and ornamental foliage plants.

Class 704.—Annuals and other soft-wooded plants, to be exhibited in successive periods during the season.

Class 705.—Roses.

Class 706.—Cactacea.

Class 707.—Ferns, their management in the open air, and in ferneries, wardian cases, etc.

Class 708.—New plants with statement of their origin.

Class 709.—Floral designs, etc. Cut flowers, bouquets, preserved flowers, leaves, seaweeds. Illustrations of plants and flowers. Materials for floral designs. Bouquet materials, bouquet holders, bouquet papers, models of fruits, vegetables, and flowers.

HOT HOUSES, CONSERVATORIES, GRAPERIES, AND THEIR MANAGEMENT.

Class 710.—Hot-house and conservatory plants.

Class 711.—Fruit trees under glass.

Class 712.—Orchids and parasitic plants.

Class 713.—Forcing and propagation of plants.

Class 714.—Aquatic plants under glass, or in aquaria, etc.

Class 715.—Horticultural buildings, propagating houses, hot-beds, etc., and modes of heating them. Structures for propagating and forcing small fruits.

Class 716.—Portable or movable orchard houses and graperies, without artificial heat. Frames, beds.

GARDEN TOOLS, ACCESSORIES OF GARDENING.

Class 720.—Tools and implements. Machines for the transplanting of trees, shrubs, etc. Portable forcing pumps, for watering plants in green houses and methods of watering the garden and lawn.

Class 721.—Receptacles for plants.—Flower pots, plant-boxes, tubs, fern cases, jardinieres, etc. Window gardening. Plant and flower stands, ornate designs in iron, wood, and wire.

CLASS 722.—Ornamental wire work, viz.: fences, gates, trellis bordering of flower beds, porches. Park seats, chairs, garden statuary, vases, fountains, etc. Designations, labels, numbers.

GARDEN DESIGNING, CONSTRUCTION, AND MANAGEMENT.

CLASS 730.—Laying out gardens,—designs for the laying out of gardens, and the improvement of private residences. Designs for commercial gardens, nurseries, graperies. Designs for the parterre.

CLASS 731.—Treatment of water for ornamental purposes, cascades, fountains, reservoirs, lakes.

CLASS 732.—Formation and after-treatment of lawns.

CLASS 733.—Garden construction, buildings, etc.—Rock work, grottoes. Rustic constructions and adornments for private gardens and public grounds.

CLASS 734.—Planting, fertilizing, and cultivating.

[No. .]

EXHIBIT B.

GROUPING FOR THE JUDGES' WORK.

GROUP I.

MINERALS, MINING, AND METALLURGY, INCLUDING THE MACHINERY.

1. CLASS 100.—MINERALS, ORES, ETC.

2. Metallic and non-metallic minerals, exclusive of coal and oil. Collections of minerals systematically arranged; collections of ores and associated minerals; geological collections.

3. CLASS 101.—MINERAL COMBUSTIBLES.

4. Coal, anthracite, semi-bituminous and bituminous, coal-waste, and pressed coal; albertite, asphalt, and asphaltic limestone; bitumen, mineral tar, crude petroleum.

5. CLASS 102.—BUILDING STONES, MARBLES, SLATES, ETC.

6. Rough, hewn, sawed, or polished, for buildings, bridges, walls, or other constructions, or for interior decoration, or for furniture.

7. Marble—white, black, or colored—used in building, decoration, statuary, monuments, or furniture, in blocks or slabs not manufactured.

8. CLASS 103.—Cement-stone and crude materials for cement, limestone, etc. (For cement and artificial stone, see Group II.)

9. CLASS 104.—Clays, kaolin, silex, and other materials for the manufacture of bricks, terra-cotta, porcelain, faïence, and of glass, tiles, and fire brick. Refractory stones for lining furnaces; sandstone steatite, etc., and refractory furnace materials.

10. CLASS 105.—Graphite—crude and refined—for polishing purposes; for lubricating, electrotyping, photography, pencils, etc.

11. CLASS 106.—Grindstones, hones, whetstones; grinding and polishing materials—sand quartz, garnet, crude topaz, diamond, corundum, emery in the rock and pulverized, and in assorted sizes, and grades; lithographic stones.

12. CLASS 107.—Mineral waters; artesian well water; natural brines, salt; soluble minerals generally; sulphur, etc.

13. CLASS 108.—Mineral fertilizing substances—gypsum, phosphate of lime, marls, shells, coprolites, etc., not manufactured.

METALS, METALLURGICAL PRODUCTS, AND PROCESSES.

14. CLASS 110.—Gold, silver, platinum, quicksilver, iridium, and the rare metals.

15. CLASS 111.—Iron and steel in the pig, ingot, bar, plates and sheets; with specimens of slags, fluxes, residues, and products of working.

16. CLASS 112.—Copper in ingots, bars, and rolled, with specimens illustrating its various stages of production.

17. Class 113.—Lead, zinc, antimony, and other metals, the result of extractive processes.

18. Class 114.—Alloys used as materials—brass, nickel-silver, solder, etc.

19. Class 115.—Electro-metallurgy—unwrought products.

MACHINES, TOOLS, AND APPARATUS OF MINING, AND METALLURGY.

20. Class 500.—Rock drilling, boring, and cutting.

21. Class 501 —Well and shaft boring, oil-well machinery, etc.

22. Class 502.—Machines, apparatus, and implements for coal cutting.

23. Class 503.—Hoisting machinery and accessories.

24. Class 504.—Pumping, draining, and ventilating.

25. Class 505.—Crushing, grinding, sorting, and dressing—breakers, stamps, mills, pans, screens, sieves, jigs, concentrators.

26. Class 506.—Furnaces, smelting apparatus, and accessories.

27. Class 507.—Machinery used in the Bessemer and other special processes for making steel.

28. Class 512.—Rolling mills, bloom squeezers, etc.

MINE ENGINEERING—MODELS, MAPS, AND SECTIONS.

29. Class 120.—Surface and underground surveying and plotting. Projection of underground work, location of shafts, tunnels, etc. Surveys for aqueducts, and drainage.

30. Boring and drilling rocks, shafts, and tunnels, etc., and for ascertaining the nature and extent of mineral deposits.

31. Construction. Sinking and lining shafts by various methods; driving and timbering tunnels, and generally the operations of opening, stoping, and breaking down ore; timbering, lagging, and masonry.

32. Hoisting and delivering at the surface, rock, ore, or miners.

33. Pumping and draining by engines, buckets, or by adits.

34. Ventilation and lighting.

35. Subaqueous mining, blasting, etc.

36. Hydraulic mining, and the various processes and methods of sluicing and washing auriferous gravel, and other superficial deposits.

37. Quarrying.

38 Class 121.—Models of mines, of veins, and of machinery, etc.

GROUP II.

POTTERY, GLASS, ARTIFICIAL STONE, ETC.

1. Class 206.—Bricks, drain-tiles, terra-cotta, and architectural pottery.

2. Class 207.—Fire-clay goods, crucibles, pots, furnaces, bricks, and slabs.

3. Class 208.—Tiles—plain, enameled, encaustic; geometric tiles and mosaics. Tiles for pavements and for roofing, etc.

4. Class 209.—Porcelain for purposes of construction—hardware trimmings, etc.

5. Class 210.—Stone china, for household use, for chemists, druggists, etc., earthenware, stone-ware, faïence, etc.

6. Class 211.—Majolica and Palissy ware.

7. Class 212.—Biscuit-ware, Parian, etc.

8. Class 213.—Porcelain-ware for table and toilet use, and for decoration.

9. Class 214.—Glass used in construction and for mirrors. Window glass of various

grades of quality and of size. Plate glass—rough, and ground or polished. Toughened glass.

10. CLASS 215.—Chemical and pharmaceutical glass-ware, vials, bottles.

11. CLASS 216.—Table glass and movable decorative glass-ware.

12. CLASS 219.—Stained and enameled glass, cut and engraved window glass, signs, lanterns, and similar decorative objects.

13. CLASS 103.—Lime cement and hydraulic cement raw and burned, accompanied by specimens of the crude rock or material used, also artificial stone, concrete, beton.

14. Specimens of lime mortar and mixtures, with illustrations of the processes of mixing, etc.

15. Beton mixtures and results, with illustrations of the processes.

16. Artificial stone for building purposes, building, blocks, cornices, etc.

17. Artificial stone mixtures, for pavements, walls, or ceilings.

18. Plasters, mastics, etc.

19. CLASS 517.—Brick, pottery, and tile machines. Machines for making artificial stone.

20. CLASS 518.—Furnaces, moulds, blow pipes, etc., for making glass and glass-ware.

GROUP III.

CHEMISTRY AND PHARMACY, INCLUDING THE APPARATUS.

1. CLASS 200.—CHEMICALS, PHARMACEUTICAL PREPARATIONS, ETC.

2. Mineral acids, and the methods of manufacture. Sulphuric, nitric, and hydrochloric acids.

3. The common commercial alkalies—potash soda, and ammonia, with their carbonates.

4. Salt and its production. Salt manufactured from deposits. Native salts. Salt by solar evaporation from sea-water. Salt by evaporation from water of saline springs or wells. Rock salt. Ground and table salt.

5. Bleaching powders, chloride of lime, etc.

6. Chemicals and chemical compounds generally.

7. Pharmaceutical compounds.

8. CLASS 274.—Pharmaceutical apparatus.

9. CLASS 201.—OILS, SOAPS, CANDLES, ILLUMINATING GASES, ETC.

10. Oils from mineral, animal, and vegetable sources. Refined petroleum, benzine, naphtha, and other products of the manufacture. Oils from various seeds, refined, and of various degrees of purity, such as olive oil, cotton seed oil, palm oil. Animal oils, of various kinds, in their refined state. Oils prepared for special purposes besides lighting and for food. Lubricating oils.

11. Soaps and detergent preparations.

12. Candles—stearine, glycerine, paraffine, etc.; spermaceti.

13. Illuminating gas and its manufacture.

14. Oxygen gas, and its application for heating, lighting, metallurgy, and as a remedial agent.

15. Chlorine and carbonic acid.

16. CLASS 202.—Paints, pigments, dyes, colors, turpentine, varnishes, printing inks, writing inks, blacking.

17. CLASS 203.—Flavoring extracts, essences, perfumery, pomades, cosmetics.

18. CLASS 659.—Sugar, syrups, and sugar-making apparatus.

19. CLASS 508.—Chemical manufacturing machinery.

20. CLASS 509.—Gas machinery and apparatus.

GROUP IV.

ANIMAL AND VEGETABLE PRODUCTS, AND THE MACHINERY FOR THEIR PREPARATION.

1. CLASS 650.—Sponges, sea-weed, and other growths used for food or in the arts.
2. CLASS 651.—The dairy—milk, cream, butter, cheese.
3. CLASS 652.—Tallow, oil, and lard; ivory, bone, horn, glue.
4. CLASS 653.—Eggs, feathers, down.
5. CLASS 654.—Honey and wax.
6. CLASS 655.—Animal perfumes—as musk, civet, ambergris, etc.
7. CLASS 656.—Preserved meats, vegetables, and fruits; dried, or in cans or jars. Meat and vegetable extracts.
8. CLASS 657.—Flour; crushed and ground cereals; decorticated grains.
9. CLASS 658.—Starch and similar products.

(For sugar, syrups, etc., see Group III.)

10. CLASS 660.—Wines, alcohol, and malt liquors.
11. CLASS 661.—Bread, biscuits, crackers, and cakes.

(For vegetable and other oils, see Group III.)

12. Yeast preparations, yeast powders, baking powders, etc.

GROUP V.

FISH AND FISH PRODUCTS—APPARATUS OF FISHING, ETC.

1. CLASS 640.—Marine mammals—seals, cetaceans, etc., specimens living in aquaria, or stuffed, salted, or otherwise preserved.
2. CLASS 641.—Fishes, living or preserved.
3. CLASS 642.—Pickled fish, and parts of fish used for food.
4. CLASS 643.—Crustaceans, echinoderms, beche de mer.
5. CLASS 644.—Mollusks, oysters, clams, etc., used for food.
6. CLASS 645.—Shells, corals, and pearls.
7. CLASS 646.—Whalebone, shagreen, fish-glue, isinglass, sounds.
8. CLASS 647.—Instruments and apparatus of fishing—nets, baskets, hooks, and other apparatus used in catching fish.
9. CLASS 648.—Fish culture—aquaria, hatching pools, vessels for transporting roe and spawn, and other apparatus used in fish breeding, culture, or preservation.

GROUP VI.

TIMBER, WORKED LUMBER, PARTS OF BUILDINGS, FORESTRY.

1. CLASS 600.—Timber and trunks of trees, entire or in transverse or truncated sections, with specimens of barks, leaves, flowers, seed vessels, and seed.
2. Ship timber—masts, spars, knees; longitudinal sections of trees; railway ties; planks, boards, rough and planed; shingles, lath, staves, etc.
3. Timber and lumber prepared in various ways to resist decay and combustion, as by injection of salts of copper and zinc, etc.
4. CLASS 601.—Ornamental woods used in decorating and for furniture, such as ma-

hogany, oak, etc., and veneers of rosewood, ebony, walnut, maple, madrona, and other woods.

5. Class 602.—Dye-woods, barks, and galls, for coloring and tanning. (See also Group III.)

6. Class 603.—Gums, resins, caoutchouc, gutta-percha, vegetable wax.

7. Class 604.—Lichens, mosses, fungi, pulu, ferns.

8. Class 605.—Seeds, nuts, etc., for food and ornamental purposes.

9. Class 606.—Forestry.—Illustrations of the art of planting, managing, and protecting forests. Statistics.

10. Class 227.—Manufactured parts of buildings—doors, mouldings, sash, blinds, mantels, etc.

11. Parquetry work, detached specimens for floors, wainscoting, etc. (For complete designs, etc., see Group XXVII.)

GROUP VII.

FURNITURE, UPHOLSTERY, WOODEN WARE, BASKETS, ETC.

1. Class 217.—Household, office, and church furniture.
2. Upholstery, curtain fixtures, shades, etc.
3. Class 220.—Mirrors, gilt cornices, brackets, picture frames, etc.
4. Class 221.—The nursery and its accessories—children's chairs, walking chairs.
5. Class 289.—Wooden and basket ware, papier maché.
6. Class 286.—Brushes, brooms, dusters, etc.
7. Class 225.—Laundry appliances—washing-machines, mangles, clothes-wringers, clothes-bars, ironing-tables.
8. Class 226.—Apparatus and appliances of the bath room and water-closet—shower bath, earth closet, etc.
9. Class 290.—Undertakers' furnishing goods—caskets, coffins, etc.

GROUP VIII.

COTTON, LINEN, AND OTHER FABRICS, INCLUDING THE MATERIALS AND THE MACHINERY.

1. Class 228.—Woven Fabrics of Mineral Origin.
2. Wire cloths, sieve cloth, wire screens, bolting cloths, asbestos fibre, spun and woven, with the clothing manufactured from it. Glass thread, floss, and fabrics.
3. Class 229.—Coarse fabrics, of grass, rattan, cocoanut, and bark.
4. Mattings—Chinese, Japanese, palm-leaf, grass, and rushes. Floor cloths of rattan and cocoanut fibre, aloe fibre, etc.
5. Class 665.—Cotton on the stem, in the boll, ginned, and baled.
6. Class 666.—Hemp, flax, jute, ramie, etc., in primitive forms and in all stages of preparation for spinning.
7. Class 230.—Cotton yarns and fabrics, bleached and unbleached.
8. Cotton sheeting and shirting, plain and twilled.
9. Cotton canvas and duck. Awnings, tents.
10. Class 231.—Dyed cotton fabrics, exclusive of prints and calicoes.
11. Class 232.—Cotton prints and calicoes, including handkerchiefs, scarfs, etc.
12. Class 233.—Linen and other vegetable fabrics, uncolored or dyed.

13. CLASS 234.—Floor oil cloths, and other painted and enameled tissues, and imitations of leather with a woven base.

14. CLASS 521.—Machines for the manufacture of cotton goods.

15. CLASS 523.—Machines for the manufacture of linen goods.

16. CLASS 524.—Machines for the manufacture of rope and twine, and other fibrous materials not elsewhere specified.

GROUP IX.

WOOL AND SILK FABRICS, INCLUDING THE MATERIALS AND THE MACHINERY.

WOVEN AND FELTED GOODS OF WOOL, AND MIXTURES OF WOOL.

1. CLASS 667.—Wool in the fleece, in bales, and carded.

2. CLASS 235.—Card wool fabrics—yarns, broadcloth, doeskins, fancy cassimeres. Felted goods. Hat bodies.

3. CLASS 236.—Flannels—plain flannels, domets, opera and fancy.

4. CLASS 237.—Blankets, robes, and shawls.

5. CLASS 238.—Combed wool fabrics—worsteds, yarns, dress goods for women's wear, delaines, serges, poplins, merinoes.

6. CLASS 239.—Carpets, rugs, etc.—Brussels, melton, tapestry, tapestry Brussels, Axminster, Venetian, ingrain, felted carpetings, druggets, rugs, etc.

7. CLASS 240.—Hair—alpaca, goat's hair, camel's hair, and other fabrics mixed or unmixed with wool.

8. CLASS 241.—Printed and embossed woolen cloths, table covers, patent velvets.

9. CLASS 522.—Machines for the manufacture of woolen goods.

SILK AND SILK FABRICS, AND MIXTURES IN WHICH SILK IS THE PREDOMINATING MATERIAL.

10. CLASS 242.—Cocoons and raw silk as reeled from the cocoon; thrown or twisted silks in the gum.

11. CLASS 243.—Thrown or twisted silks, boiled off or dyed; in hanks, skeins, or on spools.

12. CLASS 244.—Spun silk yarns and fabrics, and the materials from which they are made.

13. CLASS 245.—Plain woven silks, lutestrings, sarsnets, satins, serges, foulards, tissues for hat and millinery purposes, etc.

14. CLASS 246.—Figured silk piece goods, woven or printed. Upholstery silks, etc.

15. CLASS 247.—Crapes, velvets, gauzes, cravats, handkerchiefs, hosiery, knit goods, laces, scarfs, ties, veils, all descriptions of cut and made up silks.

16. CLASS 248.—Ribbons—plain, fancy, and velvet.

17. CLASS 249.—Bindings—braids, cords, galloons, ladies' dress trimmings, upholsterers', tailors', military, and miscellaneous trimmings.

18. CLASS 520.—Machines for the manufacture of silk goods.

GROUP X

CLOTHING, FURS, INDIA RUBBER GOODS, ORNAMENTS, AND FANCY ARTICLES.

(Exclusive of Leather Boots and Shoes.)

1. CLASS 250.—Ready-made clothing, knit goods and hosiery, military clothing, church vestments, costumes, water-proof clothing, and clothing for special objects.
2. CLASS 251.—Hats, caps, gloves, mittens, etc.; straw and palm leaf hats; bonnets, and millinery.
3. CLASS 252.—Laces, embroideries, and trimmings for clothing, furniture, and carriages.
4. CLASS 254.—Artificial flowers, coiffures, buttons, trimmings, pins, hooks-and-eyes, fans, umbrellas, sun-shades, walking-canes, pipes, and small objects of dress or adornment, exclusive of jewelry.
5. Toys, games, etc.
6. CLASS 255.—Fancy leather work—pocket-books, toilet cases, traveling equipments, valises, and trunks. (See also in leather, Group XII.)
7. CLASS 257.—Furs, manufactured into clothing, robes, etc.
8. CLASS 257.—Historical collections of costumes; national costumes.
9. CLASS 288.—Flags, insignia, emblems.

CAOUTCHOUC AND GUTTA-PERCHA INDUSTRY.

10. CLASS 285.—"India rubber" goods and manufactures.

GROUP XI.

JEWELRY, WATCHES, SILVER-WARE, BRONZES, ETC.

(See also Group XXVII., ART.)

1. CLASS 253.—Jewelry, and ornaments worn upon the person.
2. Diamonds, and other precious gems, mounted singly or in groups—head-dresses, "tiara," necklaces, rings, pins, etc.
3. Pearls, pearl and coral sets and ornaments.
4. Gold ornaments—rings, pins, necklaces, chains, bracelets, buttons, etc.
5. Cut and engraved stones.
6. Gilt goods, metal and other ornaments, and imitations generally.
7. Watches—their mounting and decoration—regarded chiefly from the ornamental and commercial point of view. (For "movements" and chronometric qualities, see also Group XXV.)
8. Silver-ware and silver-plate—hollow-ware, plain, embossed, engraved, or otherwise ornamented.
9. Silver and silver-plated knives, forks, spoons, etc.
10. Ornamental silver bronze and metal work generally. Bronzes and "mantel ornaments," decorative clocks, etc. Enamels, etc. (See Group XXVII.)

GROUP XII.

LEATHER AND MANUFACTURES OF LEATHER, INCLUDING BOOTS, SHOES, TRUNKS, Etc.

(For Harness and Saddlery, in part, see Group XVII.)

1. Hides and skins, salted or dried.
2. Leather of all kinds.
3. Parchment, vellum, etc.
4. Boots and shoes.
5. Trunks, and traveling equipments, in part.
6. Belting, cords, straps, etc.
7. Harness and saddlery. (See Group XVII.)
8. Class 532.—Machines for preparing and working leather.
   Class 533.—Machines for making boots and shoes.

GROUP XIII.

PAPER INDUSTRY, STATIONERY, PRINTING, AND BOOK MAKING.

1. Class 258.—Stationery for the desk, stationers' articles, pens, pencils, ink stands, and other apparatus of writing and drawing.
2. Class 259.—Writing paper and envelopes, blank-book paper, bond paper, tracing paper, drawing paper, tracing linen, tissue paper, etc.
3. Class 260.—Printing papers for books, newspapers, etc.
4. Wrapping paper of all grades; cartridge and manilla paper; paper bags.
5. Class 261.—Blank books, sets of account books, specimens of ruling and binding, including blanks, bill heads, etc.; book binding.
6. Class 262.—Cards—playing cards, card board, binders' board, pasteboard, paper or card board boxes.
7. Class 263.—Building paper, pasteboard for walls, cane fibre felt, papier maché, and material for construction, car wheels, ornaments, etc.
8. Class 264.—Wall papers, enameled and colored papers, imitations of leather, wood, etc.

MACHINES AND APPARATUS FOR TYPE SETTING, PRINTING, STAMPING, EMBOSSING, AND FOR MAKING BOOKS AND PAPER WORKING.

9. Class 540.—Printing presses.
10. Class 541.—Type-casting machines, apparatus of stereotyping.
11. Class 542.—Types, and type-setting machines. Type-writing machines.
12. Class 543.—Printers' furniture.
13. Class 544.—Book-binding machines.
14. Class 545.—Paper-folding machines.
15. Class 546.—Paper and card cutting machines.
16. Class 547.—Envelope machines.
17. Class 525.—Paper-making machinery and processes.

GROUP XIV.

APPARATUS OF HEATING, LIGHTING, VENTILATION, WATER SUPPLY, AND DRAINAGE.

1. CLASS 222.—Apparatus and fixtures for heating and cooking—stoves, ranges, heaters, etc.

2. Fire places, grates and fixtures, for burning wood, coal, or gas.

3. Hot air furnaces, steam heaters, hot water heaters, radiators, etc.

4. Stoves, cooking stoves, kitchen ranges, ovens, and fixed apparatus of cooking.

5. CLASS 224.—Kitchen and pantry utensils, tinware, and apparatus used in cooking (exclusive of cutlery).

6. CLASS 223.—Apparatus for lighting—gas fixtures, lamps, etc.

7. Ventilating apparatus.

8. Water supply apparatus—pipes, faucets, filters, hot water boilers, water-backs, and plumbers' goods generally.

9. Drainage—pipes, traps, and sewer connections, and apparatus.

GROUP XV.

BUILDERS' HARDWARE, EDGE TOOLS, CUTLERY, ETC.

1. CLASS 280.—Hand tools and instruments used by carpenters, joiners, and for wood and stone in general. Miscellaneous hand tools used in industries, such as jewelers', engravers'.

2. CLASS 281.—Cutlery—knives, penknives, scissors, razors, razor-strops, skates, and implements sold by cutlers.

3. CLASS 283.—Metal hollow-ware—ornamental castings.

4. CLASS 284.—Hardware used in construction, exclusive of tools and implements, spikes, nails, screws, tacks, bolts, locks, latches, hinges, pulleys. Furniture fittings; ship's hardware. (For carriage hardware, see Group XVII.)

GROUP XVI.

MILITARY AND SPORTING ARMS, WEAPONS, APPARATUS OF HUNTING, EXPLOSIVES, ETC.

1. CLASS 265.—Military small arms, muskets, pistols, and magazine guns, with their ammunition.

2. CLASS 266.—Light artillery, compound guns, machine guns, mitrailleuses, etc.

3. CLASS 267.—Heavy ordnance and its accessories.

4. CLASS 268.—Knives, swords, spears, and dirks.

5. CLASS 269.—Fire arms used for sporting and hunting, also other implements for the same purpose.

6. CLASS 270.—Traps for game, birds, vermin, etc. (For apparatus of fishing, see Group V.)

7. CLASS 204.—Explosive and fulminating compounds, in small quantities only, and under special regulations; shown in the building only by empty cases and cartridges.

Black powder of various grades and sizes. Nitro-glycerine, and the methods of using and exploding. Giant powder, dynamite, dualin, tri-nitro-glycerine.

8. CLASS 205.—Pyrotechnics, for display, signaling, missiles, etc.

GROUP XVII.

CARRIAGES, VEHICLES, AND ACCESSORIES.

(For Farm Vehicles and Railway Carriages, etc., see Departments of Agriculture and Machinery.)

1. CLASS 292.—Pleasure carriages.
2. CLASS 293.—Traveling carriages, coaches, stages, omnibuses, hearses.
3. Bath chairs, velocipedes, baby carriages.
4. CLASS 294.—Vehicles for movement of goods and heavy objects, carts, wagons, trucks. (For traction engines, see Group XVIII.)
5. CLASS 295.—Sleighs, sledges, sleds, etc.
6. CLASS 296.—Carriage and horse furniture, harness and saddlery, whips, spurs, horse-blankets, carriage robes, rugs, etc.
7. Parts of carriages—wheels, bodies, shafts, etc.
8. Springs, axles.
9. Carriage iron work and fittings.
10. Carriage hardware.
11. Carriage varnish, oil, lubricants, etc.

GROUP XVIII.

RAILWAY PLANT, ROLLING STOCK, AND APPARATUS; ROAD ENGINES.

1. CLASS 570.—Locomotives, models, drawings, plans, etc.
2. CLASS 571.—Carriages, wagons, trucks, cars, etc.
3. Snow-plows.
4. CLASS 572.—Brakes, buffers, couplings.
5. CLASS 573.—Wheels, tires, axles, bearings, springs, etc.
6. CLASS 574.—Permanent way, ties, chairs, switches, etc.
7. CLASS 575.—Station arrangements, water-cranes, turn-tables.
8. Railway signals.
9. CLASS 576.—Miscellaneous locomotive attachments.
10. CLASS 577.—Street railways and cars.
11. Road and traction engines, etc.

GROUP XIX.

VESSELS AND APPARATUS, OF TRANSPORTATION, NOT INCLUDED IN OTHER GROUPS.

1 CLASS 590.—Suspended-cable railways.

2. CLASS 591.—Transporting cables.
3. CLASS 592.—Balloons, and apparatus, etc.

4. Class 593.—See Group xx.

5. Class 594.—Boats and sailing vessels. Sailing vessels used in commerce. Sailing vessels used in war. Yachts and pleasure boats. Rowing boats of all kinds.

6. Life boats and salvage apparatus, with life-rafts, belts, etc. Submarine armor, diving bells, etc. Ice boats.

7. Class 595.—Steamships, steamboats, and all vessels propelled by steam.

8. Class 554.—Screw propellers; wheels for the propulsion of vessels, etc.

9. Class 596.—Vessels for carrying telegraph cables, and railway trains; also coal barges, water boats, and dredging machines; screw and floating docks; and for other special purpose.

10. Class 597.—Steam capstans, windlass, deck-winches, and steering apparatus.

11. Class 287.—Ropes, cordage.

GROUP XX.

MOTORS, HYDRAULIC AND PNEUMATIC APPARATUS, Etc.

1. Class 550.—Boilers, and all steam or gas-generating apparatus for motive purposes.

2. Class 551.—Water-wheels, wind-mills.

3. Class 552.—Steam, air, or gas engines. (For electro-magnetic engines, see Group xxv.)

4. Class 553.—Apparatus for the transmission of power—shafting, belting, cables, gearing; transmission of power by compressed air, etc.

5. Class 554.—(See Group xix.)

6. Class 555.—Implements and apparatus used in connection with motors, steam gauges, manometers, etc. (See also Group xxv.)

7. Class 560.—Pumps and apparatus for lifting and moving liquids—water engines, hydraulic rams. (Class 551, in part.)

8. Class 561.—Pumps and apparatus for moving and compressing air or gas.

9. Class 562.—Pumps and blowing engines, blowers, and ventilating apparatus.

10. Class 563.—Pneumatic railways; pneumatic dispatch.

11. Class 563.—Hydraulic jacks, presses, elevators, lifts, cranes. (For "meters," see Group xxv.)

12. Class 564.—Fire engines—hand, steam, or chemical; and fire extinguishing apparatus—hose, ladders, fire-escapes, etc.

13. Class 565.—Beer engines, soda-water machines, bottling apparatus, corking machines.

14. Class 566.—Stop valves, cocks, pipes, etc.

15. Class 567.—Diving apparatus and machinery.

16. Class 568.—Ice machines.

GROUP XXI.

MACHINE TOOLS.—WOOD, METAL, AND STONE.

1. Class 510.—Planing, sawing, veneering, grooving, mortising, tonguing, cutting, moulding, stamping, carving, and cask-making machines, etc., cork-cutting machines.

2. Class 511.—Direct-acting steam sawing machines, with gang saws.

3. Class 514.—Steam, trip, and other hammers, with specimens of work, anvils, forges.

4. Class 515.—Planing, drilling, slotting, turning, shaping, punching, stamping, and cutting machines. Wheel cutting and dividing machines.

5. Emery wheels and mountings.

6. Drills, taps, gauges, dies, etc.

7. Class 516.—Stone-sawing and planing machines; machines for dressing, shaping, and polishing; sand blasts; Tilghman's machines; glass-grinding machines, etc.

GROUP XXII.

MACHINES, APPARATUS, AND IMPLEMENTS USED IN SEWING AND MAKING CLOTHING, LACE, ORNAMENTAL OBJECTS, PINS, ETC.

1. Class 530.—Machines used in the manufacture of tapestry, including carpets, lace, floor-cloth, fancy embroidery, etc.

2. Class 531.—Sewing and knitting machines, clothes making machines.

3. Class 534.—Machines for ironing, drying, and scouring.

4. Class 535.—Machines for making clocks and watches.

5. Class 536.—Machines for making jewelry.

6. Class 537.—Machines for making buttons, pins, needles, etc., and for sticking pins upon paper.

GROUP XXIII.

AGRICULTURAL MACHINES, IMPLEMENTS OF AGRICULTURE, HORTICULTURE, AND GARDENING.

1. Class 670.—Tillage.

2. Manual implements—spades, hoes, rakes. Animal power machinery—plows, cultivators, horse-hoes, clod-crushers, rollers, harrows. Steam power machinery—plows, breakers, harrows, cultivators.

3. Class 671.—Planting.

4. Manual implements—corn-planters and hand drills. Animal power machinery—grain and manure drills; corn and cotton planters. Steam power machinery—grain and manure drills.

5. Class 672.—Harvesting.

6. Manual implements—grain-cradles, sickles, reaping hooks. Animal power machinery—reapers and headers. Mowers, tedders, rakes, hay elevators, and hay loaders. Potato diggers.

7. Class 673.—Preparatory to Marketing.

8. Thrashers, clover-hullers, corn-shellers, winnowers, hay-making apparatus.

9. Class 674.—Applicable to Farm Economy.

10. Portable and stationary engines, chaffers, hay and feed cutters, slicers, pulpers, corn mills, farm boilers and steamers, incubators. Churns for hand and power, butter-workers, cans and pails, cheese-presses, vats, and apparatus.

11. Class 675.—Dairy fittings and appliances.

12. Class 680.—Laying Out and Improving Farms.

13. Clearing (stump-extractors), construction of roads, draining, irrigating apparatus, models of fences, gates, drains, out-falls, dams, embankments, irrigating machinery, stack building and thatching.

14. CLASS 681.—COMMERCIAL FERTILIZERS.

15. Phosphatic, ammoniacal, calcareous, etc.

16. CLASS 682.—TRANSPORTATION.

17. Wagons, carts, sleds, harness. (See also Group XXVII.) Yokes, and apparatus for road making and excavating. (For traction engines, see Group XVIII.)

18. CLASS 683.—FARM BUILDINGS.

19. Models and drawings of farm houses and tenements, barns, stables, hop-houses, fruit-driers, ice-houses, wind-mills, granaries, barracks, apiaries, cocooneries, aviaries, abattoirs, and dairies.

TILLAGE AND GENERAL MANAGEMENT.

20. CLASS 690.—Systems of planting and cultivation.

21. CLASS 691.—Systems of draining and application of manures.

22. CLASS 692.—Systems of breeding and stock feeding.

23. CLASS 715.—Horticultural buildings, propagating houses, hot-beds, etc., and modes of heating them. Structures for propagating and forcing small fruits.

24. CLASS 716.—Portable or movable orchard houses and graperies, without artificial heat. Frames, beds.

GARDEN TOOLS, ACCESSORIES OF GARDENING.

26. CLASS 720.—TOOLS AND IMPLEMENTS.

27. Machines for the transplanting of trees, shrubs, etc. Portable forcing pumps, for watering plants in green houses, and methods of watering the garden and lawn.

28. CLASS 721.—RECEPTACLES FOR PLANTS.

29. Flower pots, plant-boxes, tubs, fern cases, jardinieres, etc. Window gardening. Plant and flower stands, ornate designs in iron, wood, and wire.

30. CLASS 722.—ORNAMENTAL WIRE WORK.

31. Fences, gates, trellis, bordering of flower beds, porches. Park seats, chairs, garden statuary, vases, fountains, etc. Designations, labels, numbers.

GARDEN DESIGNING, CONSTRUCTION, AND MANAGEMENT.

32. CLASS 710.—LAYING OUT GARDENS.

Designs for the laying out of gardens, and the improvement of private residences. Designs for commercial gardens, nurseries, graperies. Designs for the parterre.

33. CLASS 731.—Treatment of water for ornamental purposes, cascades, fountains, reservoirs, lakes.

34. CLASS 732.—Formation and after-treatment of lawns.

35. CLASS 733.—Garden construction, buildings, etc.—Rock work, grottoes.

36. Rustic constructions and adornments for private gardens and public grounds.

GROUP XXIV.

INSTRUMENTS AND APPARATUS OF HYGIENE, MEDICINE, SURGERY, PROSTHESIS, ETC.

1. CLASS 272.—Medicines; officinal (in any authoritative pharmacopœia), articles of the materia medica; preparations, unofficinal.

2. CLASS 273.—Dietetic preparations, as beef extract and other articles intended especially for the sick.

3. CLASS 275.—Instruments for physical diagnosis, clinical thermometers, stethoscopes, ophthalmoscopes, etc. (except clinical microscopes, etc., for which see Class 324).

4. CLASS 276.—Surgical instruments and appliances, with dressings, apparatus for deformities, prosthesis, obstetrical instruments.

5. CLASS 277.—Dental instruments, appliances, and materials.

6. CLASS 278.—Vehicles and appliances, for the transportation and relief of the sick and wounded, during peace and war, on shore or at sea.

GROUP XXV.

INSTRUMENTS OF PRECISION, RESEARCH, EXPERIMENT, AND ILLUSTRATION, INCLUDING TELEGRAPHY AND MUSIC.

1. CLASS 320. ASTRONOMICAL, SURVEYING, AND LEVELING INSTRUMENTS.
2. Astromomical instruments, and accessories, used in observatories.
3. Transits, mural circles, equatorials, collimators.
4. Geodetic and surveying instruments. Transits, theodolites, needle compasses. Instruments for surveying underground in mines, tunnels, and excavations.
5. Nautical astronomical instruments. Sextants, quadrants, repeating circles, dip-sectors.
6. Leveling instruments and apparatus. Carpenters' and builders' levels, hand levels, water levels, engineers' levels.
7. Instruments for deep sea sounding and hydrographic surveying.
8. METEOROLOGICAL INSTRUMENTS AND APPARATUS.
9. Thermometers, pyrometers.
10. Barometers.
11. Hygrometers and rain-gauges.
12. Maps, bulletins.
13. Blanks for reports, methods of recording, reducing, and reporting observations.
14. CLASS 321.—Indicating and registering apparatus, other than meteorological; mechanical calculation. (See also Group XX.)
15. Viameters, pedometers, perambulators.
16. Gas meters.
17. Water meters, current meters, ships' logs, electrical logs.
18. Tide registers.
19. Apparatus for printing consecutive numbers.
20. Counting machines, calculating engines, arithmometers.
21. CLASS 322.—WEIGHTS, MEASURES, WEIGHING AND METROLOGICAL APPARATUS.
22. Measures of length; graduated scales on wood, metal, ivory, tape, or ribbon; steel tapes, chains, rods, verniers, rods and graduated scales, for measuring lumber, goods in packages, casks, etc., gaugers' tools and methods.
23. Measures of capacity for solids and liquids.
24. Weights. Scales and graduated beams for weighing; assay balances, chemical balances. Ordinary scales for heavy weights; weighing locomotives and trains of cars. Postal balances. Hydrometers, alcoometers, lactometers, etc.; gravimeters.
25. CLASS 323.—CHRONOMETRIC APPARATUS.
26. Chronometers. Astronomical clocks. Church and metropolitan clocks. Ordinary commercial clocks. Pendulum and spring clocks. Marine clocks. Watches. Clepsydras, hour glasses, sun dials. Chronographs, electrical clocks. Metronomes.
27. CLASS 324.—OPTICAL AND THERMOTIC INSTRUMENTS, AND APPARATUS.
28. Mirrors (for special purposes), plane and spherical.
29. Lenses and prisms.
30. Spectacles and eye glasses, field and opera glasses, graphoscopes and stereoscopes.
31. Cameras and photographic apparatus.

32. Microscopes.

33. Telescopes. (See also Class 320.)

34. Apparatus for artificial illumination, including electric, oxyhydrogen, and magnesium lights.

35. Stereopticons.

36. Photometric apparatus.

37. Spectroscopes and accessories, for spectrum analysis.

38. Polariscopes, etc.

39. Thermotic apparatus. Thermometers of all descriptions, maximum, minimum, self registering, etc.

40. CLASS 325.—ELECTRICAL APPARATUS.

41. Friction machines.

42. Condensers and miscellaneous apparatus, to illustrate the discharge.

43. Galvanic batteries and accessories to illustrate dynamical electricity.

44. Electro-magnetic apparatus. Electro-magnetic engines. (See Class 552.)

45. Induction machines, Rumkorff coils, etc.

46. Magnets and magneto-electrical apparatus.

47. CLASS 326.—TELEGRAPHIC INSTRUMENTS AND METHODS.

48. Batteries and forms of apparatus used in generating the electrical currents for telegraphic purposes.

49. Conductors and insulators, and methods of support; marine telegraph cables.

50. Apparatus of transmission—keys, office accessories, and apparatus.

51. Receiving instruments, relay magnets, local circuits.

52. Semaphoric and recording instruments.

53. Codes, signs, or signals.

54. Printing telegraphs for special uses.

55. Electrographs.

56. Dial or cadran systems.

57. Apparatus for automatic transmission.

58. CLASS 327.—MUSICAL INSTRUMENTS, AND ACOUSTIC APPARATUS.

59. Percussion instruments—drums, tamborines, cymbals, triangles.

60. Pianos.

61. Stringed instruments other than pianos.

62. Automatic musical instruments, music boxes.

63. Wind instruments of metal and of wood.

64. Harmoniums.

65. Church organs and similar instruments.

66. Speaking machines.

67. Vocal music.

GROUP XXVI.

ARCHITECTURE AND ENGINEERING.

(For Agricultural Engineering, see Class 680.)
(For Mine Engineering, see Group I.)

ARCHITECTURE.

1. The construction and arrangement of the interior of dwelling houses, hotels, public buildings, churches, and buildings for special purposes. Fire-proof structures and methods of building.

2. CLASS 342.—The dwelling—sanitary conditions and regulations. Systems of water

supply, drainage, heating, lighting, and ventilation. (For apparatus and fixtures, see Group XIV.)

3. CLASS 341.—Models and drawings of finished buildings, of market houses and markets, of hospitals, bath houses, gymnasiums, etc.

ENGINEERING.

4. CLASS 330.—CIVIL ENGINEERING.
5. Land surveying, public lands, etc.
6. River, harbor, and coast surveying. Construction and maintainance of roads, streets, pavements, etc. Surveys, and location of towns and cities, with systems of water supply and drainage. Arched bridges of metal, stone, brick, or beton. Trussed girder bridges. Suspension bridges. Canals, aqueducts, reservoirs, construction of dams. Hydraulic engineering, and means of arresting and controlling the flow of water.
7. Submarine constructions, foundations, piers, docks, etc.
8. CLASS 331.—DYNAMIC AND INDUSTRIAL ENGINEERING.
9. Construction and working of machines; examples of planning and construction of manufacturing and metallurgical establishments.
10. CLASS 332.—RAILWAY ENGINEERING.
11. Location of railways, and the construction and management of railways.
12. CLASS 333.—MILITARY ENGINEERING.
13. CLASS 335.—CHARTS, MAPS, AND GRAPHIC REPRESENTATIONS.
14. Topographical maps. Marine and coast charts.
15. Botanical, agronomical, and other maps, showing the extent and distribution of men, animals, and terrestrial products. Physical maps.
16. Meteorological maps and bulletins. Telegraphic routes and stations. Railway and route maps. Terrestrial and celestial globes. Relief maps and models of portions of the earth's surface. Profiles of ocean beds and routes of submarine cables.

GROUP XXVII.

PLASTIC AND GRAPHIC ART.

SCULPTURE.

1. CLASS 400.—Figures and groups in stone, metal, clay or plaster.
2. CLASS 401.—Bas-reliefs, in stone or metal; electrotype copies.
3. CLASS 402.—Medals, pressed and engraved; electrotypes of medals.
4. CLASS 403.—Hammered and wrought work—*repoussé* and *rehausé* work, embossed and engraved relief work.
5. CLASS 404.—Cameos, intaglios, engraved stones, dies, seals, etc.
6. CLASS 405.—Carvings in wood, ivory, and metal.

PAINTING.

7. CLASS 410.—Painting in oil on canvas, panels, etc.
8. CLASS 411.—Water color pictures; aquarelles, miniatures, etc.
9. CLASS 412.—Frescoes, cartoons for frescoes, etc.
10. CLASS 413.—Painting with vitrifiable colors. Pictures on porcelain, enamel, and metal.

ENGRAVING AND LITHOGRAPHY.

11. CLASS 420.—Drawings with pen, pencil, or crayons.
12. CLASS 421.—Line engravings from steel, copper, or stone.
13. CLASS 422.—Wood engravings.
14. CLASS 423.—Lithographs, zincographs, etc.
15. CLASS 424.—Chromo-lithographs.

PHOTOGRAPHY.

16. CLASS 430.—Photographs on paper, metal, glass, wood, fabrics, or enamel surfaces. Micro-photographs.
17. CLASS 431.—Prints from photo-relief plates, carbon-prints, etc.
18. CLASS 432.—Photo-lithographs, etc.

INDUSTRIAL AND ARCHITECTURAL DESIGNS, MODELS, AND DECORATIONS.

19. CLASS 440.—Industrial designs.
20. CLASS 441.—Architectural designs; studies and fragments, representations and projects of edifices; restorations from ruins and from documents.
21. CLASS 442.—Decoration of interiors of buildings.
22. CLASS 443.—Artistic hardware and trimmings; artistic castings, forged metal work for decoration, etc.

DECORATION WITH CERAMIC AND VITREOUS MATERIALS; MOSAIC AND INLAID WORK.

23. CLASS 450.—Mosaic and inlaid work in stone.
24. CLASS 451.—Mosaic and inlaid work in tiles, tesseræ, glass, etc.
25. CLASS 452.—Inlaid work in wood and metal; parquetry, inlaid floors, tables, etc.
26. CLASS 453.—Stained glass.
27. CLASS 454.—Miscellaneous objects of art.

GROUP XXVIII.

EDUCATION AND SCIENCE.

EDUCATIONAL SYSTEMS, METHODS, AND LIBRARIES.

1. CLASS 300.—ELEMENTARY INSTRUCTION.
2. Infant schools and kindergartens—arrangements, furniture, appliances, and modes of training.
3. Public schools, graded schools, buildings and grounds, equipments, courses of study, methods of instruction, text books, apparatus, including maps, charts, globes, etc.; pupils' work, including drawing and penmanship; provisions for physical training.
4. CLASS 301.—HIGHER EDUCATION.
5. Academies and high schools.
6. Colleges and universities. Buildings and grounds; libraries, museums of zoology, botany, mineralogy, art, and archæology; apparatus for illustration and research; mathematical, physical, chemical, and astronomical courses of study; text books, catalogues, libraries, and gymnasiums.

7. CLASS 302.—Professional schools—theology, law, medicine and surgery, dentistry, pharmacy, mining, engineering, agriculture and mechanical arts, art and design, military schools, naval schools, normal schools, commercial schools, music.

8. Buildings, text books, libraries, apparatus, methods, and other accessories for professional schools.

9. CLASS 303.—Institutions for instruction of the blind, deaf, and dumb, and the feeble-minded.

10. CLASS 304.—Education reports and statistics.

11. National bureau of education. State, city, and town systems. College, university, and professional systems.

12. CLASS 305.—Libraries, history, reports, statistics, and catalogues.

13. CLASS 306.—School and text books, dictionaries, encyclopædias, gazetteers, directories, index volumes, bibliographies, catalogues, almanacs, special treatises, general and miscellaneous literature.

14. Newspapers, technical and special newspapers and journals, illustrated papers, periodical literature.

INSTITUTIONS AND ORGANIZATIONS.

15. CLASS 310.—Institutions founded for the increase and diffusion of knowledge. Such as the Smithsonian Institution, the Royal Institution, the Institute of France, British Association for the Advancement of Science, and the American Association, etc., their organization, history, and results.

16. CLASS 311.—Learned and scientific associations. Geological and mineralogical societies, etc. Engineering, technical, and professional associations. Artistic, biological, zoological, medical schools, astronomical observatories.

17. CLASS 312.—Museums, collections, art galleries, exhibitions of works of art and industry. Agricultural fairs, state and county exhibitions, national exhibitions. International exhibitions.

18. Scientific museums and art museums.

19. Ethnological and archæological collections.

20. CLASS 313.—Music and the drama.

EXHIBIT C.

[No. 194.]

INFORMATION FOR THE JUDGES.

I. Each exhibitor will fill up, without delay, the annexed form for the information of the Judges of Awards.

II. The Foreign Commissions will secure the information asked for in this form from the exhibitors from their respective countries, and transmit it to the Director-General.

Exhibitors from the United States, after filling up this form, will send it direct to the Chief of the Bureau of Awards.

III. The form so filled up must reach that Bureau by the tenth of May at the latest. They will be arranged according to the system of classification adopted for the use of the Judges, and will be laid before them for their information.

A. T. GOSHORN,
Director-General.

C. J. STILLÉ,
Chief of the Bureau of Awards.

PHILADELPHIA, April 12, 1876.

INFORMATION FOR THE JUDGES OF AWARDS, TO BE SUPPLIED WITH AS LITTLE DELAY AS POSSIBLE.

Name in full of the individual or firm exhibiting..

Address in full..

QUESTION.	ANSWER.	REMARKS.
1. Brief description of the objects exhibited.		
2. Place of production.		
3. Does the exhibitor offer his exhibit for competition?		
4 Building in which the articles exhibited are placed, and location therein.		
5. Particular merit which the exhibitor claims for his exhibit.		

Signature of the exhibitor,..

Date,..

[Indorsement.]

INTERNATIONAL EXHIBITION, 1876.

INFORMATION FOR THE JUDGES.

BE CAREFUL TO FILL THE FOLLOWING BLANKS BESIDES THOSE WITHIN.

Country,

………………………………………………………………

Name of Exhibitor,

………………………………………………………………

State Number of Department:

Either—

1. Mining and Metallurgy.
2. Manufactures.
3. Education and Science.
4. Fine and Industrial Arts.
5. Machinery.
6. Agriculture.
7. Horticulture.

EXHIBIT D.

ALPHABETICAL LIST OF JUDGES.

AMERICAN.

ABBOT, HENRY L., Major U.S.A., Washington, D. C.
ADDY, MATTHEW, Cincinnati, Ohio.
ALLEN, HORATIO, LL.D., South Orange, N. J.
AMES, AZEL, JR., M.D., Wakefield, Mass.
ANDERSON, JOHN A., Manhattan, Kansas.
ARNOLD, L. B., A.M., Gates, Monroe Co., N. Y.
ATKINSON, EDWARD, Brookline, Mass.
AXTELL, SAMUEL B., A.M., Richfield, Summit Co., Ohio.

BAIRD, SPENCER F., Washington, D. C.
BAKER, GEORGE O., Selma, Ala.
BARNARD, F. A. P., LL.D., New York, N. Y.
BECKWITH, ARTHUR, New York, N. Y.
BELKNAP, JOSEPH, New York, N. Y.
BENNETT, J. MCCAULLY, Weston, W. Va.
BLELOCH, GEO. H., Springfield, Mass.
BOYDEN, ADDISON, Boston, Mass.
BRADFORD, JOHN, Tallahassee, Fla.
BREWER, WM. H., New Haven, Conn.
BRIAN, H. T., Baltimore, Md.
BRISTOW, GEO. F., New York, N. Y.
BRITTON, BENJ. F., New York, N. Y.
BROADHEAD, G. C., M.S., Pleasant Hill, Cass Co., Mo.
BROWN, RYLAND T., A.M., M.D., Indianapolis, Ind.
BRUCE, JAMES, Corvallas, Benton Co., Oregon.

CHANDLER, C. F., A.M., PH.D., M.D., LL.D., New York, N. Y.
CHANDLER, WILLIAM HENRY, PH.D., F.C.S., South Bethlehem, Pa.
CHAPIN, CHARLES O., Springfield, Mass.
CLAGHORN, JAMES L., Philadelphia, Pa.
CONLEY, EDWARD, New York, N. Y.
COWDIN, ELLIOT C., New York, N. Y.
COX, CHRISTOPHER CHRISTIAN, M.D., LL.D., Washington, D. C.
COX, E. T., Indianapolis, Ind.
CUMMINGS, JOHN, Boston, Mass.

DRAPER, HENRY, M.D., New York, N. Y.
DURFEE, WILLIAM FRANKLIN, New Bedford, Mass.

EADS, JAMES B., St. Louis, Mo.
ELLIS, CHARLES J., Philadelphia, Pa.
EMERY, CHARLES E., C.E., New York, N. Y.

FAXON, WILLIAM, Hartford, Conn.
FERGUSON, THOMAS BARKER, Baltimore, Md.
FRANKLIN, WILLIAM B., Hartford, Conn.
FRITZ, JOHN, Bethlehem, Pa.

GENTH, FREDERIC AUGUSTUS, Philadelphia, Pa.
GILLMORE, QUINCY ADAMS, Lieut.-colonel U.S.A., New York, N. Y.
GILMAN, DANIEL COIT, LL.D., Baltimore, Md.
GODDARD, THOMAS, Boston, Mass.
GOODSPEED, HENRY CHURCHILL, Salt Lake City, Utah.
GOTTESLEBEN, PETER, Denver, Col.
GREENE, WALTER S., Milford, Conn.
GREGORY, GEORGE W., Boston, Mass.
GREGORY, JOHN M., Champaign, Ill.
GRIFFITHS, JOHN W., New York, N. Y.

GRINNELL, JAMES S., Greenfield, Mass.

HAMILTON, GEORGE AUGUSTUS, St. Paul, Minn.
HAYES, JOHN LORD, A.M., Cambridge, Mass.
HENRY, JOSEPH, LL.D., Washington, D. C.
HEWSTON, GEORGE, A.M., M.D., San Francisco, Cal.
HILGARD, J. E., U. S. Coast Survey, Washington, D. C.
HOLLEY, A. L., New York, N. Y.
HORSFORD, EBEN NORTON, A.M., M.D., Cambridge, Mass.
HOYT, JOHN W., A.M., M.D., LL.D., Madison, Wis.
HUNT, RICHARD M., New York, N. Y.
HUNT, THOMAS STERRY, LL.D., Boston, Mass.

IMBODEN, JOHN DANIEL, Richmond, Va.

JOY, CHARLES A., PH.D., New York, N.Y.

KENNARD, MARTIN PARRY, Brookline, Mass.
KERR, W. C., Raleigh, N. C.
KEYES, WINFIELD SCOTT, B.A., M.E., San Francisco, Cal.
KNIGHT, EDWARD HENRY, A.M., Zanesfield, Ohio.

LANG, J. D., Vassalborough, Me.
LE BOUTILLIER, CHARLES, Germantown, Pa.
LINTHICUM, WILLIAM O., New York, N. Y.
LOCKWOOD, AMOS D., Providence, R. I.
LYFORD, S. C., Major U.S.A., Washington, D. C.

MALLET, JOHN WILLIAM, M.D., LL.D., University of Virginia, Va.
MARX, GUIDO, Toledo, Ohio.
MAYER, BRANTZ, Baltimore, Md.
MILES, THOMAS, Philadelphia, Pa.
MITCHELL, DONALD G., New Haven, Conn.
MITCHELL, ROBERT, Cincinnati, Ohio.
MORRIS, THOMAS A., Indianapolis, Ind.

NEWBERRY, JOHN STRONG, A.M., M.D., LL.D., New York, N. Y.
NEWTON, ISAAC, C.E., New York, N. Y.
NICHOLS, GEORGE WARD, Cincinnati, Ohio.

OLIVER, HENRY KEMBLE, A.M., Salem, Mass.

PIERPOINT, F. H., Fairmount, West Va.
POORE, L. D. F., Springfield, Dakota.
PORTER, CHARLES TALBOT, Newark, N. J.
POSTLES, J. PARKE, Wilmington, Del.
PRIME, FREDERICK, JR., Easton, Pa.

REED, GEORGE LATIMER, Clearfield, Pa.
REYNOLDS, JOHN PARKER, A.M., Chicago, Ill.
RICHARDSON, EDMUND, Jackson, Miss.
RICKER, R. E., Elizabeth, N. J.

SAFFORD, JAMES M., A.M., M.D., Nashville, Tenn.
SAVAGE, AUSTIN, C.E., Boise City, Idaho.
SLATAPER, FELICIAN, Pittsburgh, Pa.
SMITH, FRANK HILL, Boston, Mass.
SMITH, J. LAURENCE, Louisville, Ky.
STAPLES, CHARLES, JR., Portland, Me.
STEINMETZ, DANIEL, Philadelphia, Pa.

THOMPSON, J. HARRY, Washington, D. C.
TOBIAS, JOSEPH F., Philadelphia, Pa.
TYNDALE, HECTOR, Philadelphia, Pa.

WADDELL, HUGH, JR., Savannah, Ga.
WARING, GEORGE E., JR., Newport, R. I.
WATSON, JAMES CRAIG, A.M., Ann Arbor, Mich.
WEBBER, SAMUEL, Manchester, N. H.
WEIR, JOHN F., N.A., M.A., New Haven, Conn.
WHITE, ANDREW DICKSON, LL.D., Ithaca, N. Y.
WHITE, CHARLES BRAMAN, A.M., M.D., New Orleans, La.
WILLCOX, JAMES M., PH.D., Philadelphia, Pa.
WILTSE, CHAUNCEY, Omaha, Neb.
WOLFF, CHARLES H., Cincinnati, Ohio.
WURTZ, HENRY, Hoboken, N. J.

JUDGES OF POMOLOGY, HORTICULTURE, AND LIVE STOCK.

Anderson, Frank T., Rockbriar, Va.

Birnie, William, Springfield, Mass.
Brackenridge, W. D., Govanstown, Baltimore Co., Md.
Brown, S. P., Washington, D. C.
Buchanan, O. H., Mount Pleasant, Iowa.

Cameron, Colin, Lancaster, Pa.
Campbell, George, W. Westminster, Vt.
Crosby, Charles, Danbury, Conn.

Davenport, George L., Davenport, Iowa.
Duke, Basil, St. Louis, Mo.

Earle, Parker, Cobden, Ill.

Foster, Suel, Muscatine, Iowa.

Halstead, A. M., Rye, N. Y.
Hammond, George, Middlebury, Vt.
Harrison, A. W., Philadelphia, Pa.
Holt, Thaddeus, Macon, Ga.
Hoopes, Josiah, West Chester, Pa.

Johnson, J. A., California.
Jones, T. C., Delaware, Ohio.

Lannau, P. H., Salt Lake City, Utah.
Long, John E., Detroit, Mich.
Luse, Z. C., Iowa City, Iowa.
Lynch, S. T., Los Angeles, Cal.
Lyon, T. T., South Haven, Mich.

McAllister, Archd., Springfield Furnace, Pa.
Mackie, J. Milton, Great Barrington, Mass.
Martin, M., Chattahoochee, Fla.
Maynard, J. S., Weld Co., Cal.
Meehan, Thomas, Philadelphia, Pa.
Meredith, Henry C., Cambridge City, Ind.
Morse, B. F., Augusta, Me.
Murray, George, Racine, Wis.

Parry, William, Cinnaminson, N. J.
Pentland, Francis, Cincinnati, Ohio.
Percival, Warren, Vassalborough, Me.
Pitman, Mark, Beverly, Mass.

Rogers, W. F., Doylestown, Pa.

Satterthwait, Edward, Jenkintown, Pa.
Saunders, William, Washington, D. C.
Schaffer, W. L., Philadelphia, Pa.
Sickels, T. E., Pennsylvania.
Skinner, Col. F. G., New York, N. Y.
Smith, Ashbel, M.D., Texas.
Smith, Milo, Clinton, Iowa.
Stocking, Moses, Wahoo, Neb.
Stowell, Col. E. S., Cornwall, Vt.
Suit, S. T., Silver Hill, Md.
Swan, John, Baltimore, Md.

Tallmadge, T. W., Ohio.
Tewkesbury, S. H., Portland, Me.
Thurber, George, New York, N. Y.
Twaddell, L. H., M.D., Philadelphia, Pa.

Vilay, John R., Lexington, Ky.

Washburne, J. M., Sioux Falls, Dakota.
Welden, J. W., New York, N. Y.
Wilkins, M., Harrisburg, Oregon.
Williams, Thomas G., Austin, Texas.

Yellowley, J. B., Canton, Miss.

ADDITIONAL JUDGES ON APPEALS.

Sellers, Coleman, Philadelphia, Pa.
Smith, H. H., M.D., Philadelphia, Pa.

FOREIGN.

Akerman, Richard, Stockholm, Sweden.
Althans, Ernst Friederich, Obergrath, Breslau, Silesia, Germany.
Andersen, Joakim, Aalesund, Norway.
Anderson, John, LL.D., C.E., London, England.
Angstrom, Carl Arendt, Stockholm, Sweden.

ARBO, PETER NICHOLAS, Christiania, Norway.
ARNBERG, CARL, Stockholm, Sweden.

BAIN, HONORABLE JAMES, D.L., F.R.G.S., F.R.S.E., Glasgow, Scotland.
BARCENA, MARIANO, Mexico.
BARLOW, WILLIAM HENRY, F.R.S., England.
BAUMHAUER, DR. E. H. VON, Haarlem, Netherlands.
BEHMER, AUGUST, Egypt.
BELL, ISAAC LOWTHIAN, M.P., F.R.S., England.
BOCHNOR, THEODOR, JR., Brünn, Austria.
BRUGSCH, EMIL, Cairo, Egypt.
BUSSY, CH. DE, Paris, France.

CHATEL, LOUIS, Lyons, France.
COLEMAN, JOHN, M.R.A.C., Cirencester, England.
COPE, CHARLES WEST, London, England.
CORTÁZAR, DANIEL DE, Madrid, Spain.
COSTENOBLE, CARL, Vienna, Austria.
COUTINHO, JOAO MARTINS DA SILVA, Rio de Janeiro, Brazil.

DAHLERUP, JENS VILHELM, Copenhagen, Denmark.
DANINOS, ALBERT, Turkey.
DARDEL, FRITZ L. VON, Stockholm, Sweden.
DASSI, GIUSEPPE, Italy.
DIEFENBACH, JULIUS, Stuttgart, Germany.
DIETZ-MONNIN, CH. F., Paris, France.
DUFFUS, WILLIAM, Halifax, Nova Scotia.
DU GAGE, ROULLEAUX, France.

EMPEY, M. P., Hamilton, Canada.

FLEISCHL, ERNST V., Vienna, Austria.
FOURET, RENÉ, Paris, France.
FYNJE, JOHANNES GERARDUS WYBO, Netherlands.

GALTON, DOUGLAS, England.
GANDARA, ALVARO DE LA, Barcelona, Spain.
GEBHARD, GUSTAV, Eberfeld, Germany.
GOBERT, AUG., FILS, Brussels, Belgium.
GOLDY, A., St. Gall, Switzerland.
GRAHAM, PETER.
GUIET, M., Paris, France.

HAWKSHAW, SIR JOHN, F.R.S., London, England.
HEAP, G. H., Tunis.
HERRMAN, FRIEDRICH GUSTAV, Aix-la-Chapelle, Prussia.
HULSE, WILLIAM WILSON, England.

JOLY, HENRY GUSTAVE, Quebec, Canada.
JOSSA, NICHOLAS, St. Petersburg, Russia.
JOTTRAND, ACHILLE, Namur, Belgium.

KANITZ, EDWARD, Austria.
KENZO, EKEDA, Tokio, Japan.
KENZO, HAYAMI, Tokio, Japan.
KITTARY, MODEST, St. Petersburg, Russia.
KJERULF, THEODOR, Christiania, Norway.
KUHLMANN, J. F., Lille, France.
KUPKA, PETER FREDERIC, Vienna, Austria.

LAVOINNE, EDOUARD, Auxerre, France.
LEME, PEDRO DIAZ GORDILHO PAES, Rio de Janeiro, Brazil.
LESNE, ALPHONSE, Liége, Belgium.
LEVASSEUR, PIERRE EMILE, Paris, France.
LORING, EDWARD, Malaga, Spain.

MCHARDY, DAVID, Cranford, Scotland.
MALHEIRO, LOURENCO, M.E., Portugal.
MARIN, JOHN JOSEPH, Madrid, Spain.
MARTELL, EDWARD, Cognac, France.
MITCHELL, HENRY, Bradford, England.
MOORE, JAMES, Haniston, Canada.
MOREIRA, NICOLAU JOAQUIM, Rio de Janeiro, Brazil.
MORGAN, IRA, Canada.
MORPHY, JUAN, Spain (took the place of EDWARD LORING).

NEESER, JOHN GASPAR, New York, New York, U. S.
NICHOLSKY, NICHOLAS, St. Petersburg, Russia.
NOBLE, WILLIAM HENRY, M.A., Woolwich, England.
NORDENSKIOLD, ADOLPH E., Sweden.
NOTOMI, KAIZIRO, Tokio, Japan.

ODLING, WILLIAM, DR., M.A., London, England.

OLDENDORFF, J. G. ERNST, Buenos Ayres, Argentine Republic.

PAGET, FREDERICK A., C.E., London, England.
PATERNO, EMANUEL, Italy.
PERRET, EDW. FAVRE, Switzerland.
PERRIER, FRANCOIS, Paris, France.
PETROFF, NICHOLAS, Russia.
PONTZEN, ERNEST, Vienna, Austria.

REED, SIR CHARLES, London, England.
REIS, JAYME BATALHA, Portugal.
REULEAUX, FRANCIS, Berlin, Prussia.
RICH, FREDERICK HENRY, R.E., London, England.
RIEFER, FELIX, Vienna, Austria.
ROCHAMBEAU, ACHILLE EUGENE, MARQUIS OF, France.
ROSILLO, FERMIN, Madrid, Spain.
ROTH, WILHELM A., M.D., Dresden, Saxony, Germany.
RUSTEM EFFENDI, Secretary of Turkish Legation, Washington, D. C.

SAINTIN, JULES EMILE, Paris, France.
SALDANHA DA GAMA, JOSÉ, Rio de Janeiro, Brazil.
SALDANHA DA GAMA, LUIZ PHILLIPE DE, Rio de Janeiro, Brazil.
SANCTIS, GUGLIELMO DE, Rome, Italy.
SCHAAR, E., Mechlin, Belgium.
SCHIEDMAYER, J., Würtemberg, Germany.
SCHLESINGER, CARL, Germany.
SECCHI DE CASALI, G. F., Elizabeth, New Jersey, U. S.
SEELHORST, G., PH.D , Nuremberg, Bavaria, Germany.
SEGELCKE, THOMAS RUSE, Copenhagen, Denmark.
SEITZ, GUSTAV W., Wandsbeck, Germany.
SIMONIN, LOUIS, Paris, France.
SMITH, R. H. SODEN, M.A., F.S.A., London, England.
SNYERS, THEODORE, Belgium.

TANTARDINI, ANTONIO, Milan, Italy.
THONET, FRANCOIS, Vienna, Austria.
THOMSON, SIR WILLIAM, LL.D., F.R.S., Glasgow, Scotland.
TORELL, PROF. DR. MARTIN, Sweden.

VALDEMORO ORTIZ DE LAZCANO, DON NOBERTO LOPEZ, Madrid, Spain.
VALTON, FERDINAND, Paris, France.
VAN BEEST, E. VAN HEEMSKERCK, Netherlands.
VASCONCELLOS, MEM RODRIGUES DE, Lisbon, Portugal.
VOGEL, HERMANN W., Berlin, Germany.

WAGNER, RUDOLF VON, M.D., Würzburg, Germany.
WATERLOW, SYDNEY HEDLEY, BART., London, England.
WATTS, ISAAC, Manchester, England.
WEGELER, JULIUS, Coblentz-on-the-Rhine.
WEIGERT, DR. MAX, Berlin, Germany.
WEST, JOHN R., Savannah, Georgia, U. S.
WILDE, PROSPER DE, Brussels, Belgium.

JUDGES OF LIVE STOCK.

ALDOUS, JOHN, Ontario, Canada.

BAKER, J. W., England.
BARRIE, ALEXANDER, Canada.

DROLET, GUSTAVUS A., Montreal, Canada.
DUCKHAM, THOMAS, London. England.

PARRINGTON, T., England.

RICHARDS, OWEN, England.

EXHIBIT

NUMBER OF AWARDS BY

	NATIONS.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XIV.	XV.	XVI.	XVII.	XVIII.
	United States	438	104	222	455	95	51	197	148	174	256	28	216	167	153	155	39	132	18
	Great Britain	36	32	52	34	4	2	18	41	53	40	7	5	12	12	16	18	14	3
BRITISH COLONIES.	New Zealand	1	....	2	6	....	3	....	3	7	1	....	....	....	....	....	1	....	....
	New South Wales	8	....	5	18	....	2	....	2	27	1	....	2	1	....	....	....	1	....
	Victoria	9	1	7	48	1	3	4	4	18	3	....	4	1	4	....	....	2	....
	South Australia	3	....	1	25	....	....	....	....	9	1	2	....	....	....	....	....	....	....
	Cape of Good Hope	2	....	....	13	1	1	....	....	1	....	....	....	....	....	....	....	....	....
	Jamaica	....	....	2	22	....	1	....	2	....	1	....	....	....	....	....	....	....	....
	Bahamas	....	....	....	3	2	1	....	....	....	....	....	....	....	....	....	....	....	....
	Bermudas	1	....	....	1	2	1	....	....	....	....	....	....	....	....	....	....	....	....
	British Guiana	....	....	4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Ceylon	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Straits Settlement	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Gold Coast	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Mauritius	....	....	1	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....
	Queensland	11	....	7	9	....	4	1	3	14	....	....	1	1	....	....	1	....	....
	Seychelles Archipelago	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Tasmania	4	....	1	3	1	1	....	....	17	1	....	....	....	....	....	....	....	....
	Trinidad	1	....	1	1	....	1	....	1	....	....	....	....	....	....	....	....	....	....
	India	....	....	....	1	....	....	....	....	....	....	1	....	....	....	....	1	....	....
	Canada	28	9	17	134	12	21	4	2	13	32	....	4	3	2	12	....	8	2
	France	13	23	54	148	7	....	14	7	67	52	19	15	13	1	10	2	6	2
	Germany	34	23	86	108	1	3	14	14	29	39	35	6	17	4	10	1	3	3
	Austria	6	18	30	37	1	3	8	7	23	51	8	6	8	2	3	....	3	2
	Switzerland	1	1	7	19	....	....	....	7	19	24	4	....	1	....	3	....	....	....
	Belgium	11	20	12	9	....	2	11	14	23	15	2	4	4	3	3	6	....	4
	Netherlands	....	5	13	52	1	6	2	10	5	1	....	....	7	....	1	1	....	....
	" E. I. Colonies	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Denmark	....	2	3	14	....	....	1	....	....	1	1	....	....	....	....	....	....	....
	Sweden	16	6	14	17	7	3	2	5	6	14	1	2	9	....	9	7	....	7
	Norway	12	1	9	21	29	3	....	2	1	11	2	8	3	3	....	....	2	....
	Italy	10	9	65	199	3	3	8	13	12	21	11	9	1	....	1	....	1	....
	Egypt	....	....	1	3	....	2	1	3	3	1	1	....	5	....	....	1	1	....
	Tunis	....	....	1	2	....	....	....	....	1	1	*1	....	....	....	....	1	....	....
	Orange Free State	2	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	1
	Luxemburg	....	2	2	....	....	....	....	....	....	2	....	1	....	....	....	....	....	....
	China	....	5	2	3	....	....	5	3	3	4	4	1	1	....	....	....	....	....
	Japan	2	18	3	12	3	1	17	9	16	12	19	1	2	....	....	....	....	....
	Hawaii	1	....	6	....	....	2	....	....	....	1	....	....	....	....	....	....	....	1
	Brazil	2	....	22	168	2	17	3	11	2	10	1	7	2	....	1	3	6	....
	Argentine Republic	5	....	3	29	....	4	....	....	10	8	....	7	....	....	....	....	7	....
	Chili	5	2	....	20	1	2	....	....	....	....	....	1	1	....	....	....	....	....
	Peru	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Mexico	10	1	11	17	....	11	2	2	....	6	....	....	1	....	....	....	....	....
	Liberia	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Spain	39	11	76	327	12	31	1	35	17	29	1	9	14	2	1	1	....	....
	Philippine Islands	1	....	15	14	....	2	....	20	....	3	....	....	....	....	....	....	....	....
	Portugal	16	9	121	611	14	53	1	44	22	19	4	13	3	1	....	1	....	....
	Turkey	1	4	6	33	2	6	2	1	17	5	2	2	....	....	....	....	....	....
	Russia	19	5	42	79	4	16	9	30	41	31	12	19	6	2	3	17	11	1
	Venezuela	....	....	4	10	....	1	1	1	....	3	....	2	2	....	....	....	....	....
	Uruguay	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Siam	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	No. of American Awards	438	104	222	455	95	51	197	148	174	256	28	216	167	153	155	39	132	18
	No. of Foreign Awards	312	207	711	2270	110	212	129	297	477	444	138	129	118	36	73	62	65	26
	Total Awards	750	311	933	2725	205	263	326	445	651	700	166	345	285	189	228	101	197	44

* Objects included in this column were enumerated as "Machinery and Apparatus especially adapted to administration.

E.

COUNTRIES AND GROUPS.

XIX.	XX.	XXI.	XXII.	XXIII.	XXIV.	XXV.	XXVI.	XXVII.	XXVIII.	XXIX.	XXX.	XXXI.	XXXII.	XXXIII.	XXXIV.	XXXV.	XXXVI.	Collective Exhibit.	Special.*	Total.
33	346	129	42	248	77	166	55	145	208	72	40	39	27	9	204	157	142	55	93	5,335
2	24	12	......	7	7	26	4	82	20	7	......	1	5	1	4	2	......	2	5	610
......	......	......	......	......	......	......	1	1	3	......	......	......	......	......	......	......	......	1	......	30
......	1	......	......	......	1	......	2	3	1	......	......	......	......	......	......	......	......	1	......	76
1	1	......	......	......	1	......	1	......	9	2	......	......	......	......	......	......	......	1	......	125
......	......	......	......	......	......	......	......	2	2	1	......	......	......	......	......	......	1	1	......	48
......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	20
......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	1	1	......	31
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	7
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	7
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	5
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	2
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	....
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	1
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	3
......	......	......	......	......	......	......	1	1	2	......	......	......	......	......	......	......	......	1	......	57
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	1
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	29
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	6
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	4
3	26	8	2	17	2	3	2	7	8	2	32	11	6	4	1	20	18	2	......	477
1	13	1	1	3	13	36	12	94	25	4	......	......	......	......	......	......	......	2	......	658
1	12	4	3	2	18	41	5	63	64	2	......	......	......	......	......	......	......	13	......	658
......	1	......	......	1	5	14	9	33	10	1	......	......	......	......	......	......	1	9	......	300
......	2	......	2	......	2	40	18	7	28	......	......	......	......	......	......	......	......	16	......	201
......	5	2	......	......	3	2	......	31	19	......	......	......	......	......	......	......	......	5	......	210
......	3	......	......	......	1	6	26	30	16	3	......	......	......	......	......	......	4	1	......	194
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1
......	1	......	1	......	......	......	1	3	2	......	......	......	......	......	......	......	......	1	......	31
2	6	6	......	8	2	11	4	16	29	......	......	......	......	......	......	......	......	5	......	214
2	3	......	......	......	2	2	3	9	7	......	......	......	......	......	......	......	......	1	......	136
......	1	......	......	......	3	5	3	50	20	1	......	......	......	......	......	......	2	1	......	452
......	1	......	......	......	......	......	......	8	2	......	......	......	......	......	......	......	......	1	......	34
......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	1	......	9
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	5
......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	1	......	9
......	......	......	......	......	......	......	......	4	......	......	......	......	......	......	......	......	......	......	......	35
......	......	......	......	......	......	......	1	15	1	......	......	......	......	......	......	......	......	1	......	133
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	12
1	2	1	......	1	5	2	5	7	24	......	......	......	......	......	......	......	......	1	......	304
......	......	......	......	......	......	2	1	4	3	......	......	......	......	......	......	......	1	1	......	85
......	......	......	......	......	......	......	3	1	4	......	......	......	......	......	......	......	......	2	......	42
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	3
......	......	......	......	......	......	......	1	3	8	......	......	......	......	......	......	......	......	1	......	74
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	2
4	3	......	......	1	1	4	11	41	95	2	......	......	......	......	......	......	22	1	......	791
3	......	......	......	......	......	......	1	......	7	......	......	......	......	......	......	......	1	......	......	67
......	......	1	......	......	2	5	6	6	15	......	......	......	......	......	......	......	23	1	......	991
......	......	......	......	......	2	......	......	2	1	......	......	......	......	......	......	......	......	1	......	87
2	14	4	......	4	4	14	12	14	17	......	......	......	......	......	......	......	......	3	......	435
......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	26
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	....
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	....
33	346	129	42	248	77	166	55	145	208	72	40	39	27	9	204	157	142	55	93	5,364
23	119	39	9	46	74	213	133	540	442	27	32	12	11	5	5	22	75	94	5	7.740
56	465	168	51	294	151	379	188	683	650	99	72	51	38	14	209	179	217	149	98	13,104

the Requirements of the Exhibition," and were, for the most part, loaned by their manufacturers to the

CLASSIFICATION AND CATALOGUE.

CLASSIFICATION AND OFFICIAL CATALOGUE.

International Exhibition.

—1876—

UNITED STATES CENTENNIAL COMMISSION.

OFFICE OF THE
SECRETARY.

Philadelphia, January, 1878.

HON. A. T. GOSHORN,

Director-General of the International Exhibition:

SIR,—I have the honor herewith to transmit an account of the preparation of the Classification and Official Catalogue of the Exhibition.

Very respectfully yours,

DORSEY GARDNER,

Assistant Secretary, and Editor of the Official Catalogue.

REPORT

ON THE

CLASSIFICATION AND OFFICIAL CATALOGUE.

Classification.

March 11, 1872.

One of the first subjects considered by the Centennial Commission upon its organization was the framing of a Classification of the exhibits, designed to determine at once their arrangement in the Exhibition and a corresponding sequence of their enumeration in the Official Catalogue. The matter was referred to a Committee, which—after studying the arrangement of previous Exhibitions—adopted a scheme, modeled upon that of the Paris Exhibition of 1867, designed to be at once systematic and geographical. The system in which the products shown were to be arranged was described by the Committee, as follows:

"1. The natural products useful to man, or the basis of manufactures.

"2. The manufactures and the results of the combination of these products.

"3. The means and appliances by which such results have been accomplished.

"4. The resultant effects of such productive activity."

The products thus enumerated were to be subdivided among ten groups, to each of which were to be allotted ten classes, each class so numbered as to indicate to which group it belonged. The exhibits in a given group were to occupy a band of floor-space running lengthwise of the building; while every exhibiting country was to be allotted a band intersecting these at right angles,—so that the visitor might follow, at his option, either a single line of products as shown by all contributing nations in succession, or else might examine the products in every department of each nation separately.

This logical and theoretically perfect arrangement might perhaps in time be accomplished in a permanent museum, where one management controlled the collection and installation of exhibits. It is clearly impossible in the case of an International Exhibition of short

Classification.

duration, where each foreign Commission arranges its goods to its own taste, and a large proportion of the participating countries are unrepresented in many of the presupposed groups.

In the case of the Centennial Exhibition, the abandonment of the dual distribution, by subjects and by nationalities, was necessitated by the plans of the Exhibition buildings. At the outset it was intended to have a single large building, in which objects might have been installed in a sequence approximating that above described. But, as the preparations advanced, it became necessary to erect five principal Exhibition buildings, each designed to contain products of a distinct department. This involved a revision of the Classification, to adapt it to the changed conditions. The work of re-arrangement was assigned to the Secretary's office, and was performed by Secretary Campbell and the writer, care being taken to adhere as closely as possible to the scheme originally adopted. The distribution of the groups among the five buildings may be understood from the table appended, on page 640.*

The Classification thus prepared determined the arrangement of the Official Catalogue.

Official Catalogue.

Careful study of the experience of previous International Exhibitions occasioned doubt whether a satisfactory catalogue of exhibits could be perfected before the opening day of the Exhibition. But publishers were sanguine that the publication would prove remunerative, and urgent in their offers for the purchase of the copyright. It was determined, therefore, to award to the most desirable bidder the exclusive right of publishing the Official Catalogue and selling it within the Exhibition grounds. Invitations were issued to leading publishers in Philadelphia and neighboring cities, and to all who had requested them, to submit proposals for the publication of a catalogue containing an enumeration of all objects on exhibition, together with a limited quantity of advertisements; and the circular of invitation was accompanied by all procurable data in relation to the catalogues, the entries, and the attendance at previous Exhibitions.† Twelve formal responses were made to this invitation, which, on being opened, were found to contain the following proposals:

Sept. 1, 1875.

Sept. 15, 1875

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* In the examination of objects for the distribution of awards by the Judges, it became necessary to associate exhibits classified in separate groups and installed in different buildings. This re-arrangement of the Classification is printed in the Report of the Chief of the Bureau of Awards, page 603. The Classification itself is printed in the same report, and therefore is not repeated here.

† The full text of the Proposals for the Official Catalogue, with accompanying information, is printed in Appendix B, Form 119, page 66.

Official Catalogue.

BIDDERS.	I.	II.	III.		IV.
	A Gross Sum for Sale of Catalogue.	Royalty per Copy on all Sales.	Gross Sum for 1st 25,000 Sets.	Royalty for Sales in Excess of 1st 25,000 Sets.	Other Proposals.
I. J. R. Nagle & Co., Philadelphia	$100,000	$0.10	$25,000	$0.05	*Or*, will furnish 100,000 sets (400,000 copies) gratuitously.
II. National Publishing Co., Philadelphia	15,275	.04	5,100	.04	
III. J. B. Lippincott & Co., Philadelphia	50,000	.10	15,000	.09	
IV. John E. Potter & Co., Philadelphia	50,000	.10	10,000	.05	
V. Morwitz & Co., Philadelphia		.06¼			*Also*, 25 per cent. of advertising receipts.
VI. McLaughlin Bros., Philadelphia	40,000	.07	25,000	.02	*Also*, 50 per cent. of net advertising receipts.
VII. Porter & Coates, Philadelphia					On 1st 1,000,000 parts, $75,000. On 2d do. 60,000. On 3d do. 50,000. On 4th do. 50,000. Payable on the issuing of each 100,000 parts.
VIII. Sherman & Co., Philadelphia		.10 on the Parts III. and IV. (Art and Agriculture). .08 on the whole Four Parts.			
IX. International Printing Co., New York		.12	10,000	.05	
X. Lange, Little, & Co., New York	52,000	.09	6,500	.09½	
XI. Wheelwright & Co., New York	60,000	.07	15,000 20,000 50,000	.06 .04 .02	
XII. Riverside Press, Cambridge, Massachusetts		.05			*Or*, one-half the net profits. *Or*, will manufacture Catalogues for the Commission at cost, and publish them for a commission of 5 per cent. on cost of manufacture and net advertising receipts.

There appeared at the time no room for doubt which was the most desirable of these proposals, since the highest bidders gave assurance that they could command every facility requisite to the large publication proposed. A contract, therefore, was closed with Messrs. J. R. Nagle & Co., upon their payment of $100,000 in cash, the contractors being styled the "Centennial Catalogue Company." It was subsequently found, however, that no one connected with the Catalogue Company had any knowledge of the operations of composition, of printing, of publishing, or of procuring advertisements. The securing of advertisements was given to an agency in New York, the type-setting for the first edition to four different offices in Philadelphia, and for the revised editions to a single large office in the same city, while the printing was done in Boston, and the book-binding partly in that city, partly in New York, and partly in Philadelphia. Very much of the labor connected with the compilation of the Catalogue which rightfully should have been performed by the Company, and at its expense, was assumed by the Commission, in order that the published announcements might be faithfully fulfilled.

Official Catalogue.

Nov. 1, 1875.

The purely speculative character and motives of the Company and its incapacity to carry out the work which it had undertaken caused it serious losses in money.* On the other hand, the Centennial Commission was unable to furnish in season the material for the Catalogue.

Every effort was made to secure the information needed for the compilation of the Catalogue in ample season. Foreign Commissions were desired by the General Regulations to furnish it before December 1, 1875.† American exhibitors were required to forward it prior to the allotment of their exhibiting space. Nevertheless, the information received up to the time that the first edition of the Catalogue went to press—and, indeed, for many weeks after the Exhibition was opened—was both incomplete and misleading. American applicants who had undertaken to exhibit, but changed their minds, failed to give notification of their withdrawal, and allowed their Catalogue entries to stand; and others, who had secured space, and really exhibited, made either no Catalogue entries or inaccurate ones; while

April 19, 1876.

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* After the close of the Exhibition, the Centennial Catalogue Company preferred against the Centennial Board of Finance a claim for remuneration for the loss it had incurred. The matter was referred to arbitrators, who awarded to the Catalogue Company an indemnity of $48,000,—an award which subsequent developments clearly indicated they were not in law or in equity entitled to.

† See General Regulations for Foreign Exhibitors, Rule V, Form 104, Appendix B, page 60.

Official Catalogue.

not a few forwarded the text of entries without giving either their names or addresses. Foreign Commissions, again, furnished matter for the Catalogue in forms wholly unavailable. Many gave no indication of the groups of the Classification to which they referred exhibits, or of the Exhibition building in which they purposed installing them; several, after examining the buildings, shifted their exhibits from one to another, without notifying the editor of the Catalogue; while other Commissions submitted lists of exhibits for which application had been made in their own countries, but which were never shipped; and still others made no entries at all until long after the opening of the Exhibition.* Indeed, Catalogue entries, both from home and abroad, continued to arrive as late as September. The Catalogue, of course, was never complete, though the revised edition is believed to be more nearly so than that of any previous International Exhibition.

May 10, 1876.

The Catalogue, such as it was, was ready for sale on the opening day of the Exhibition; but several of the exhibiting nations and a considerable proportion of the American exhibitors were not mentioned in it, while it contained entries of many objects, both in the home and foreign departments, which never arrived. The work of revision was immediately commenced. American exhibitors were invited by a circular,† and foreign Commissioners by a letter from the Director-General, to indicate any omissions or needed corrections without delay; and a force of some thirty persons was engaged in the preparation of the second edition. But the alterations and re-alterations, and delays of needed information, were such that the complete manuscript for the revised edition could not be delivered to the printers until June 15; and the first volume of that edition was not on sale until late in July, nor the fourth until the middle of August. The four Catalogues of the Live-Stock Exhibitions were not included in the contract here alluded to, and occasioned no difficulty worthy of mention.

June 15, 1876.

In general, it may be said that the experience of the Centennial Exhibition confirms that of all its predecessors,—that it is hopeless to attempt publishing an Official Catalogue by the opening day, and doubtful whether one really trustworthy can be made in such

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* Several of the Foreign Commissions required such changes as involved the cancellation and resetting and stereotyping, for the third time, of Catalogue matter which they had originally offered as complete and final. In the case of nearly every exhibiting nation the entries had to be set anew and re-stereotyped. Not one of the 1200 pages in the revised edition of the Official Catalogue corresponds with one of the first edition.

† See Form No. 197, Appendix B, page 80.

Official Catalogue.

season as to render its publication desirable. A catalogue made from exhibitors' entries is worthless, while one collected from exhibits actually in place cannot be got ready for sale until several weeks after the completion of the Exhibition; and an Exhibition of such proportions is not really completed for a long time after its opening.*

It seems that the attempt to make a systematized catalogue of objects shown in a short-lived Exhibition should be abandoned. In its stead there should be substituted a system of descriptive labels affixed to each object, and giving all information needed by visitors. The enumerations of exhibits required by the Judges for the apportionment of awards to exhibitors may be made under their own supervision, after the opening of the Exhibition, and with an accuracy which cannot be secured from the entries which individual exhibitors furnish in advance.

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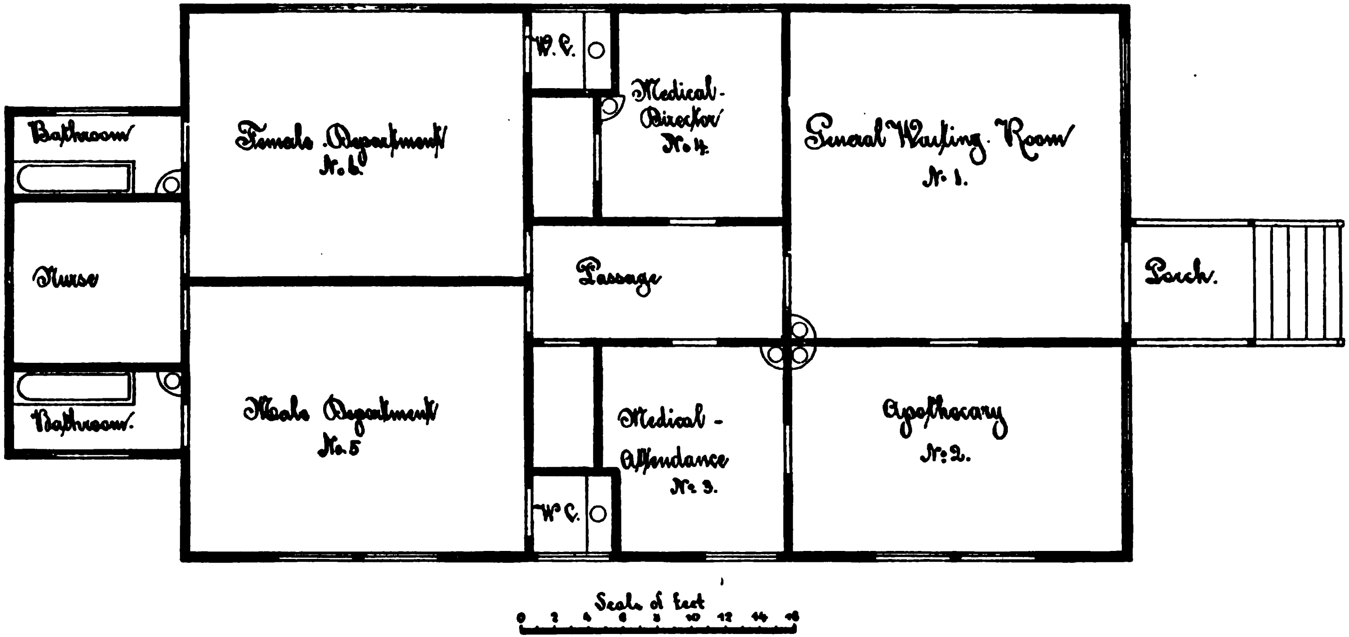
* To insure the proof-reading, printing, and binding of so extended a book in season for the opening day (May 10), it was necessary to stop receiving entries for the first edition in the third week of April. Reference to the diagram showing the receipts of exhibits, printed in the Report of the Chief of the Bureau of Transportation (page 330) will show that at that time only about one-third of the American exhibits and one-half of the foreign had been delivered at the buildings. They continued to arrive until long after the publication of the revised edition of the Catalogue,—some, indeed, as late as October. Catalogues of several of the foreign sections of the Exhibition, published by their respective Commissions, were not issued until after the Exhibition had closed.

Classification.

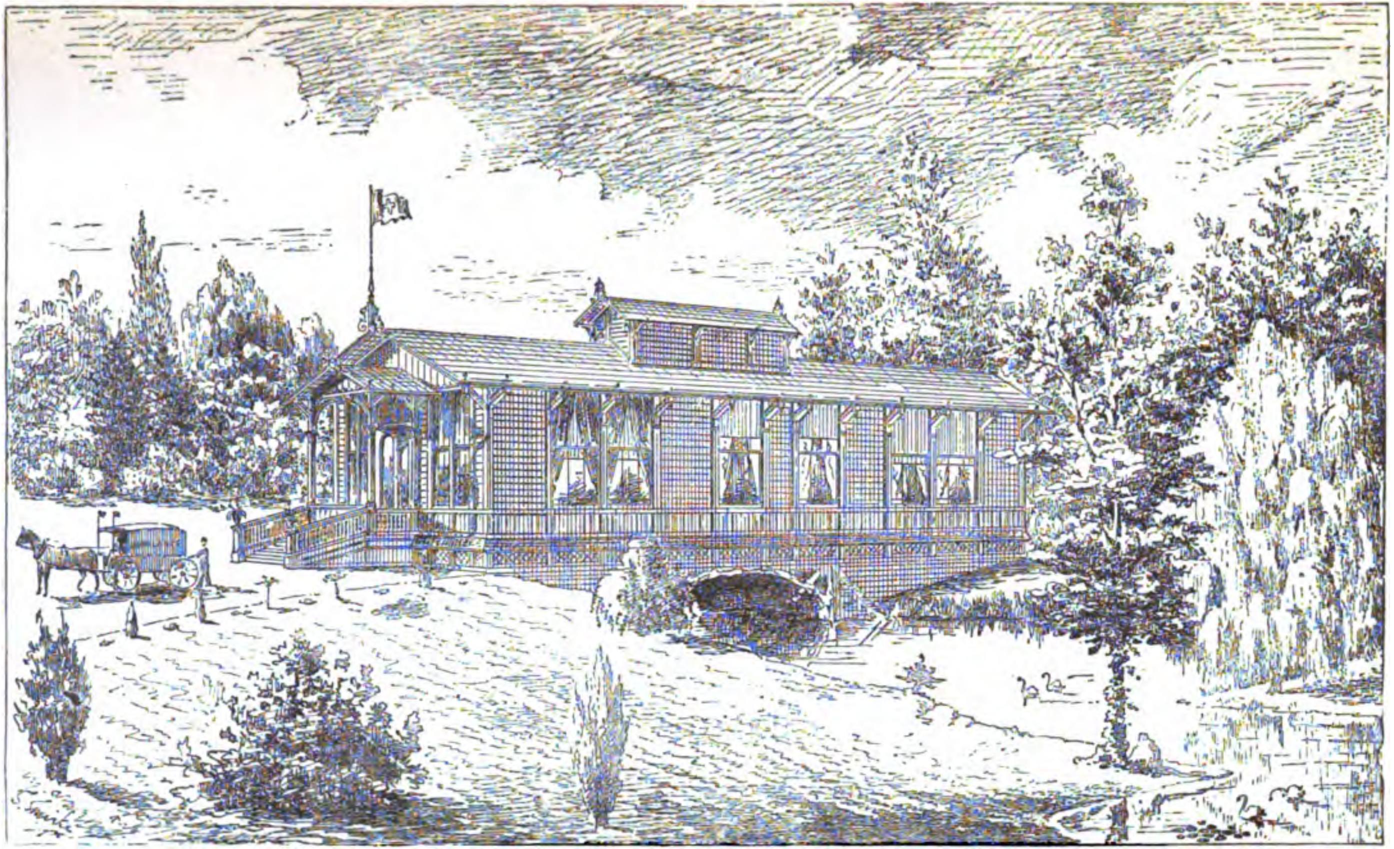
SYNOPSIS OF THE CLASSIFICATION.

LOCATION.	DEPARTMENTS.	CLASSES.	GROUPS.
MAIN BUILDING.	I. MINING AND METALLURGY.	100—109	Minerals, Ores, Stone, Mining Products.
		110—119	Metallurgical Products.
		120—129	Mining Engineering.
	II. MANUFACTURES.	200—205	Chemical Manufactures.
		206—216	Ceramics, Pottery, Porcelain, Glass, etc.
		217—227	Furniture, etc.
		228—234	Yarns and Woven Goods of Vegetable or Mineral Materials.
		235—241	Woven and Felted Goods of Wool, etc.
		242—249	Silk and Silk Fabrics.
		250—257	Clothing, Jewelry, etc.
		258—264	Paper, Blank Books, Stationery.
		265—271	Weapons, etc.
		272—279	Medicine, Surgery, Prothesis.
		280—284	Hardware, Edge-Tools, Cutlery, and Metallic Products.
		285—291	Fabrics of Vegetable, Animal, or Mineral Materials.
		292—296	Carriages, Vehicles, and Accessories.
	III. EDUCATION AND SCIENCE.	300—309	Educational Systems, Methods, and Libraries.
		310—319	Institutions and Organizations.
		320—329	Scientific and Philosophical Instruments and Methods.
		330—339	Engineering, Architecture, Maps, etc.
		340—349	Physical, Social, and Moral Condition of Man.
ART GALLERY.	IV. ART.	400—409	Sculpture.
		410—419	Painting.
		420—429	Engraving and Lithography.
		430—439	Photography.
		440—449	Industrial and Architectural Designs, etc.
		450—459	Ceramic Decorations, Mosaics, etc.
MACHINERY BUILDING.	V. MACHINERY.	500—509	Machines, Tools, etc., of Mining, Chemistry, etc.
		510—519	Machines and Tools for working Metal, Wood, and Stone.
		520—529	Machines and Implements of Spinning, Weaving, etc.
		530—539	Machines, etc., used in Sewing, making Clothing, etc.
		540—549	Machines for Printing, making Books, Paper Working, etc.
		550—559	Motors, Power Generators, etc.
		560—569	Hydraulic and Pneumatic Apparatus.
		570—579	Railway Plant, Rolling Stock, etc.
		580—589	Machinery used in preparing Agricultural Products.
		590—599	Aerial, Pneumatic, and Water Transportation.
			Machinery and Apparatus, especially adapted to the requirements of the Exhibition.
AGRICULTURAL BUILDING.	VI. AGRICULTURE.	600—609	Arboriculture and Forest Products.
		610—619	Pomology.
		620—629	Agricultural Products.
		630—639	Land Animals.
		640—649	Marine Animals, Fish-Culture, and Apparatus.
		650—662	Animal and Vegetable Products.
		665—669	Textile Substances of Vegetable or Animal Origin.
		670—679	Machines, Implements, and Processes of Manufacture.
		680—689	Agricultural Engineering and Administration.
		690—699	Tillage and General Management.
HORTICULTURAL BUILDING.	VII. HORTICULTURE.	700—709	Ornamental Trees, Shrubs, and Flowers.
		710—719	Hot-Houses, Conservatories, Graperies.
		720—729	Garden Tools, Accessories of Gardening.
		730—739	Garden Designing, Construction, and Management.

MEDICAL SERVICE.



GROUND-PLAN OF HOSPITAL.



HOSPITAL, BUREAU OF MEDICAL SERVICE, INTERNATIONAL EXHIBITION, 1876.

BUREAU OF MEDICAL SERVICE.

International Exhibition.

—1876—

UNITED STATES CENTENNIAL COMMISSION.

Bureaus of Administration.
MEDICAL SERVICE.

Philadelphia, January 1, 1877.

A. T. GOSHORN, ESQ.,
Director-General.

DEAR SIR,—I have the honor to herewith submit the report of the Medical Bureau of the International Exhibition.

Very respectfully yours,
WILLIAM PEPPER, M.D.,
Medical Director.

REPORT OF THE DIRECTOR

OF THE

BUREAU OF MEDICAL SERVICE.

Bureau of Medical Service.

The functions of the Medical Department were to supply medical and surgical assistance within the Exhibition grounds; to advise with reference to sanitary questions; and to issue in authoritative form such information on the sanitary condition of Philadelphia and of the Exhibition as might be desirable. The important subjects of the drainage and water supply of the Exhibition grounds were placed entirely under the control of the Chief Engineer of the grounds.

Organization of Medical Bureau.

The Medical Department was organized in the early part of 1876, by the appointment of a Medical Director, a staff composed of six Medical Officers, and a Secretary, who was also the Resident Physician at the Hospital in the Exhibition grounds.

MEDICAL DEPARTMENT.

MEDICAL DIRECTOR,

WILLIAM PEPPER, M.D.

OFFICERS OF MEDICAL STAFF,

JACOB ROBERTS, M.D.,	ROLAND G. CURTIN, M.D.,
S. W. GROSS, M.D.,	HAMILTON OSGOOD, M.D.,
H. C. WOOD, Jr., M.D.,	DE FOREST WILLARD, M.D.

RESIDENT PHYSICIAN AND SECRETARY,

THEODORE HERBERT, M.D.

[There were also employed a nurse, two apothecaries, and four attendants and clerical assistants.]

The Hospital was centrally located in Landsdowne Ravine, on Landsdowne Avenue, between Agricultural and Belmont Avenues. Its position was retired, well shaded, and quite picturesque. The building was a one-storied frame structure, 64 feet by 32 feet, well lighted and ventilated, and conveniently arranged, having a large waiting-room, No. 1, 19 feet 6 inches by 19 feet 6 inches; the office of the Medical Staff and of the Apothecary, No. 2, 19 feet 6 inches by 12 feet 6 inches; the office of the Director and Secretary, No. 3; the private room of the Resident Physician, No. 4; two wards, Nos. 5 and 6, for male and female patients, each 16 feet by 20 feet; two bath-rooms, and a private room for the nurse. It was furnished with every necessary convenience and comfort, and in every way answered the purposes for which it was intended.

Bureau of Medical Service.

Description of Hospital.

The Hospital was first occupied on the opening day of the Exhibition, May 10, and from that time until November 15, when the Exhibition was finally closed to the public, the above organization was maintained in efficient operation.

The experience of previous International Exhibitions has been that exaggerated statements are circulated as to the bad sanitary condition of the cities in which they have been held; and a circular (No. 1) was accordingly issued, April 15, 1876, in which the sanitary condition of Philadelphia was fairly represented.* This circular was widely distributed, and was extensively reprinted at home and abroad.

Circular No. 1.

Prior to the opening of the Exhibition the duties of the Medical Department were chiefly limited to the care of the employees engaged in the construction of the various buildings or in the preparation of the grounds, and of the attachés of the Foreign Commissions, who early began to take up their residence within the grounds. It is a gratifying fact that although many thousands of workmen were engaged for eighteen months in the construction of the buildings, the number of casualties was very small. In order to provide fully for these, Dr. Herbert was at an early day stationed in a convenient office on the grounds, so that all such cases might receive immediate attention. As there was telegraphic communication with the nearest general hospital, that connected with the University of Pennsylvania, there was no delay in having any serious case transferred in an ambulance to its wards.

Casualties among employees.

With the opening of the Exhibition began the active work of the Medical Department, but for the first few weeks the public evidently were not fully aware of its existence. It is probable that from this cause many cases of sickness, occurring during this time, did not come to the Hospital for relief. This was remedied by an announce-

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* See Exhibit A, Circular No. 1, p. 673.

Bureau of Medical Service.

ment, which was posted throughout the Exhibition Buildings and grounds.*

Stretchers and ambulance.

Owing to the great number and size of the buildings, and the distances between them, it was necessary to place stretchers at numerous points in each of the principal buildings and about the grounds. The guards were especially instructed to promptly convey to the hospital any person requiring medical relief. In addition to this an ambulance was kept standing in constant readiness to be dispatched to any part of the grounds for cases of a more serious character. The ambulance was also used in exceptional cases for conveying patients to their residences in the city, or to one of the neighboring hospitals, after the hours of the Exhibition

For the efficient and satisfactory working of the Hospital Department the following rules were issued:

Rules of the Bureau.

1. The Hospital building does not contain any exhibit; it is intended solely for medical purposes, and, as its wards are always occupied, visitors will not be admitted. Information concerning the Department can be obtained from the Resident Medical Officer.

2. All medical relief furnished at the Hospital building being gratuitous, under no circumstances will any remuneration be received for services rendered. No medicines will be sold, nor will any be dispensed excepting upon the prescription of the officers of the Department.

3. In order to avoid undue publicity of personal details, the record of the daily work of the Hospital furnished to the agents of the public press will embrace only the number and general character of the cases treated.

4. No patient will be permitted to remain in the Hospital building over night. All patients remaining in its wards at the hour of closing the Exhibition will be transported to their residence by the ambulance or by private conveyance.

5. All employees of the Board of Finance, of the Centennial Commission, and of Foreign Commissions requiring medical treatment, shall report daily to the Resident Medical Officer, at such an hour previous to the opening of the Exhibition as he shall designate.

6. Any case of serious sickness occurring among the employees must be reported without delay to the Resident Medical Officer, who shall immediately have the patient removed to his own residence or to one of the neighboring civil hospitals.

Health of resident population.

In proceeding to the consideration of the medical statistics of the Exhibition, it will be convenient to allude first to the sickness occurring among the population resident within the grounds. In this connection it is important to determine what was the average extent of this population during the period of the Exhibition, though it is impossible to do this with entire accuracy, on account of the constant changes in the number of persons domiciled at the several State headquarters. It may, however, be estimated that the average daily population for the twenty-seven weeks was 1568. The highest daily average was 1817, during the week ending May 27, and the lowest daily average was 1382, during the week ending November 10.

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* See Exhibit A, Circular No. 2, p. 674.

The population was distributed as follows:

Resident population.

Residing at the several restaurants, daily average	256
Residing at the buildings of the several foreign Commissions, daily average	103
Residing at the several State buildings, daily average	88
In the employ of the United States Government, daily average	91
" " " Board of Finance:	
Centennial Guard, daily average	802
Firemen, daily average	175
Janitors and others, daily average	53
Total	1568

Before considering the amount of sickness occurring among this population, attention is due to the peculiar conditions involved. In the first place, among the numerous representatives of foreign countries quartered within the grounds, most of whom were sufficiently well housed and provided for, there were not a few who suffered severely from the exceptional weather of 1876—the keen cold of the early months of the year, as well as the intense heat of the summer. Unfortunately, too, some of those whose native climate would render them most susceptible to these extremes were not suitably provided for, in either lodging or food. This was particularly the case with the Japanese, who numbered about fifty; and whose dwelling, although a beautiful model of Oriental taste and workmanship, was barely suitable as a residence during the cool weather of an ordinary Philadelphia spring or fall. It was a frame structure of the lightest description, with no provision for heating excepting a small shallow box, filled with sand, placed in the centre of each room, upon which were kept burning a few small pieces of charcoal. It may be imagined, therefore, how ill fitted this was as a residence, not only during the severe winter months, but even during April, May, September, and October. It is to be noted, in connection with this mode of heating the apartments of the Japanese dwelling, that, as there was no outlet for the fumes of the burning charcoal, nor indeed any aperture whatever for ventilation when the rooms were closed, as they constantly were during cool weather, the inmates were subjected to a most unwholesome atmosphere. These depressing influences, in connection with their meagre diet, caused considerable sickness among the Japanese. The chief forms of indisposition were diarrhœal affections, attended with an unusual degree of general prostration, which yielded readily to treatment, but were apt to recur. In addition to this, the want of acclimation and the depressing influences just mentioned, strongly predisposed them to contract febrile affections of typhoid type. Thus, out of about 50 individuals, including the members of the Japanese Commission and

Peculiarities of Japanese dwelling-house.

Bureau of Medical Service.

the Japanese exhibitors, there were 9 cases of typhoid and typho-malarial fever. These cases were all treated at the University Hospital, and all recovered. They were of a rather mild type, with a peculiar absence of diarrhœa and of symptoms of nervous disturbance. Although the cases were not severe, it was further noted that the convalescence was unusually slow and protracted.

Health of English residents.

Among the English residents, of whom there were 36,—next in number to the Japanese,—there was a moderate amount of diarrhœa, but only two cases of typhoid fever, both of which recovered. In marked contrast to the unhealthfulness of the Japanese colony is to be placed the excellent sanitary conditions of the cottages for the employees of the British Commission.

Composition of Centennial Guard.

The most important question in connection with this part of our subject concerns the health of the Centennial Guard. This body, which originally consisted of 1176 men, was selected with great care as to their physical fitness. It comprised representatives of twenty-five States; the largest number from any one being 608 from Pennsylvania, of whom only 197 were from Philadelphia, so that over 80 per cent. of all were from country districts. This fact has an important bearing upon the liability to continued febrile affections conspicuously displayed by the members of this force. In regard to occupation, about 50 per cent. of all had been engaged, prior to their enrolment, in in-door pursuits (as clerks, store-keepers, printers, shoemakers, etc.), which gave the worst possible preparation for the very exposing and trying duties assigned to them as members of the Guard. Indeed, of the 50 per cent. who had previously been engaged in what we have classed as out-door pursuits, as distinguished from those which were purely sedentary and in-door, there were several large groups (such as sailors, machinists, blacksmiths, etc.) who were not especially well-fitted to bear protracted exposure to intense summer-heat. An examination of the ages of the men enrolled, shows that every year from 21 to 53 inclusive was represented. The following table shows the relative number enrolled for each period of five years from 21 onwards:

Age of the Guard.

From 21 to 25 years inclusive	223 men.
" 26 to 30 " "	340 "
" 31 to 35 " "	288 "
" 36 to 40 " "	211 "
" 41 to 45 " "	95 "
" 46 to 50 " "	12 "
Over 50 years of age	7 "
Total	1176 "

Bureau of Medical Service.

Although the number of men actually enrolled in the Guard was 1176, the daily average during the entire period of the Exhibition was only 802. The reduction in numbers was a gradual one, and, so far as is known, does not impair the general accuracy of the proportions we have given. Attention has been called to the above details about the composition of the Guard, because it is evident that they exerted a large influence upon the high rate of sickness which afterwards prevailed among them.

Uniform and barracks.

Owing to the unusual heat of the season, the uniform which was adopted proved to be much too heavy and oppressive. It must also be observed that, in the construction of the barracks in which the Guard were quartered, sufficient attention was not paid to securing free ventilation or sufficient cubic feet of breathing space. It is probable that both the health and comfort of the Guard would have been better served by requiring the men to be within the grounds only while on duty and allowing them to quarter themselves outside.

Sickness among the Guard.

It was inevitable, in consideration of the composition of the Guard, their arduous duty, and the extreme heat to which they were exposed, that a considerable amount of sickness should have occurred among them. This showed itself chiefly in the forms of diarrhœal and febrile affections and of solar exhaustion. The diarrhœa was of a simple character and amenable to treatment, so that it rarely necessitated the patient's being off duty. The forms of fever which presented themselves were simple intermittent, typho-malarial, and typhoid. Nearly all cases of intermittent fever occurred among those who had suffered previously with the same affection within eighteen months. In no instance did it appear that the disease was contracted for the first time upon the Exhibition grounds. It is a well-known fact that, in those who have once suffered from malaria, any cause of nervous exhaustion, such as exposure to extremes of temperature or excessive exertion, may reproduce the symptoms of fever without there having been any fresh exposure to malarial miasm. When it is further noted that nine-tenths of the cases of intermittent fever among the Guard and other residents within the grounds occurred during the months of June, July, and August, it is clear that there cannot be said to have been any marked degree of malaria about this locality. During these three months, which were characterized by extreme and dry heat, the climatic conditions were very unfavorable to the development of the malarial poison; while during the later months of the Exhibition, including the period when malaria is usually most prevalent, it was found that not more than three or four mild cases occurred.

Absence of malaria

Of the other forms of fever mentioned, typho-malarial and typhoid,

Bureau of Medical Service.

it is important to speak more at length, since the attention not only of the medical profession but of the public was prominently directed to this subject. As, however, its chief interest concerned the health of the public at large more than that of the Guard, its consideration will be found in a later part of this report. (See pages 667–672.)

Typhoid fever among the Guard.

It is difficult to determine accurately the number of cases of typhoid fever occurring among the Guard. This is chiefly because, on the development of any symptoms of a suspicious character, the patients were in most instances removed to their homes, and all future record of the cases was lost. It is certain, however, from the observation of cases of this character sent to Philadelphia hospitals, that many of them proved to be simple diarrhœa, with unusual prostration. On the whole, it may be said that not more than from 25 to 30 cases of true typhoid or typho-malarial fever occurred among the Guard, whose average number during the months of May, June, July, and August, during which time all of the cases of fever originated, was 870. When we recall the conditions upon which we have dwelt as rendering the members of the Centennial Guard unusually liable to these febrile affections, it becomes evident that the specific causes of typhoid and typho-malarial fevers did not exist in any high degree of intensity at the Exhibition grounds.

Mortality among the Guard.

The total number of deaths known to have occurred among the Guard is 8, from the following causes:

Typhoid and typho-malarial fevers, after removal to their homes in other States	3
Typhoid and typho-malarial fevers, after removal to hospital	3
Organic disease of the heart, with rupture, after removal to hospital	1
Variola, after removal to hospital	1

Isolated cases of smallpox and measles.

In connection with this latter case, it is interesting to observe that it was developed in one of the Guard who was quartered in a crowded barrack, and that it was the only case of smallpox that occurred. In like manner, a single isolated case of severe measles presented itself in a different barrack.

In further confirmation of the view that the causes of the typhoid fever which occurred were general in their character, and connected with peculiar atmospheric conditions and with the peculiar composition of the population resident within the grounds, there should be mentioned, first, that the cases all occurred during the months of May, June, July, and August; and, secondly, that they were quite evenly distributed over the extensive grounds; thus there were cases among the Guard at the barracks on George's Hill, among the Japanese and English at their quarters on the Hill, among the guard at the Fifty-second Street barracks, among those at the barracks at the eastern end of the Main Building, among those at the barracks at the northeastern extremity of the grounds, and among those at the barracks immediately in front of the Hospital, which was almost in the centre of the inclosure. It seems remarkable that at the barracks of Company G, which was situated in Belmont Ravine, between the Kansas and Colorado Building and Agricultural Hall, there was not a single case, as this location seemed to present the least favorable hygienic conditions of all.

General health of Guard good.

Apart from the diarrhœa and fevers which have been spoken of, the general health of the Guard was good, the only ailments being of a very trivial character.

It may be stated, in conclusion, that, considering the great exposure of the Guard, of the employees, and of the attachés of Foreign Commissions during the cold inclement weather of March and April, and later during the unprecedented heat of June, July, and August, their health was better than could have been anticipated.

Sanitary statistics of visitors to the Exhibition.

As yet there have been considered only those sanitary questions connected with the population resident within the grounds. It now remains to examine the interesting questions which concern the extraordinary number of visitors who thronged the Exhibition during the twenty-seven weeks of its continuance.

Medical Bureau should be organized early.

As already stated, during the first few weeks it was not generally known to visitors that provision for medical relief had been made. In view of the frequent calls subsequently made upon the Department, and the valuable assistance rendered in many cases, it seems desirable that hereafter in similar Exhibitions the Medical Bureau should be organized at a very early date, and that the attention of the public should be called to it in the clearest possible manner.

Total number of cases treated at Hospital.

On the opening day, May 10, although there were 186,672 visitors, there would seem to have been no serious accidents, since but 5 cases applied at the Medical Department, 3 of which were slight injuries and 2 were cases of exhaustion. It is probable, however, that there were many other similar cases which were removed directly to their homes, and of which consequently no record has been kept. From that date to the closing day (159 days in all), 6463 cases were treated, making a daily average of about 41.

The following analysis of the actual residences of the cases, although of course not in any way proving that the same proportions held in regard to the entire number of visitors, is of interest:

Bureau of Medical Service.

Residences of patients.

I.—RESIDENCES OF PATIENTS.

Austria	2	West Indies	1	Nebraska	7
Bavaria	1	Alabama	14	Nevada	2
Belgium	4	Arkansas	7	North Carolina	14
Bohemia	1	California	32	New Hampshire	66
Brazil	3	Colorado	8	New Jersey	249
Canada	68	Connecticut	292	New York	1268
Cuba	1	District of Columbia	65	Ohio	318
England	55	Delaware	42	Oregon	1
France	23	Florida	9	Pennsylvania	2104
Germany	21	Georgia	18	Rhode Island	58
Ireland	11	Illinois	116	South Carolina	11
Italy	4	Indiana	97	Tennessee	15
Japan	32	Iowa	64	Texas	11
Jerusalem	1	Kansas	21	Vermont	79
Norway	1	Kentucky	20	Virginia	58
Nova Scotia	11	Louisiana	6	Wisconsin	48
Poland	1	Massachusetts	495	Not known	165
Portugal	1	Maryland	139	Total	6463
Prussia	4	Maine	42		
Russia	13	Michigan	163	United States	6016
Syria	2	Minnesota	7	Foreign countries	282
Scotland	2	Mississippi	16	Not known	165
Sweden	12	Missouri	33		
Turkey	7	Montana	1	Total	6463

It is seen from the above table that 93 per cent. of all persons treated were residents of the United States, representing 39 States and Territories; while but 4.36 per cent. of all were from foreign countries. Of those from the United States, 35 per cent. were from Pennsylvania, 21 per cent. from New York, 7.6 per cent. from Massachusetts, 4.9 per cent. from Ohio, 4.5 per cent. from Connecticut, and 3.8 per cent. from New Jersey. Of those from foreign countries, 55 were from England, 32 from Japan, 23 from France, and 21 from Germany.

Sex of patients.

Of the total number of cases (6463), 1799 were females and 4664 were males.

Ages of patients.

II.—AGES OF PATIENTS.

Ages.	Males.	Females.
Under 1 year	5	1
1 to 5 years	17	9
5 to 10 "	51	26
10 to 20 "	449	222.
20 to 40 "	2348	759
40 to 60 "	885	285
60 to 80 "	145	38
80 to 100 "	1	2
Not given	763	457
Total	4664	1799

The oldest patients included in the above table were one man aged 81, and two women aged respectively 95 and 96 years; while, on the other hand, the youngest patients were 2 and 4 weeks respectively.

The following tables present a summary of the principal causes of sickness among the visitors to the Exhibition during the twenty-seven weeks of its continuance:

Bureau of Medical Service.

Analysis of medical and surgical cases treated at the Hospital.

III.—MEDICAL CASES.

Respiratory and Circulatory Diseases.

Asthma	9
Hay asthma	2
Bronchitis	135
Hæmoptysis	13
Organic disease of heart	8
Palpitation of heart	13
Miscellaneous	66
Total	246

Digestive Diseases.

Cholera infantum	1
Cholera morbus	151
Diarrhœa	1686
Dysentery	19
Indigestion	499
Cramps	487
Constipation	215
Miscellaneous	141
Total	3199

Nervous Diseases.

Apoplexy	2
Headache	356
Neuralgia (including toothache and earache)	364
Epilepsy	28
Hysteria	50
Insanity	2
Vertigo	55
Menière's disease	1
Miscellaneous	7
Total	865

Fevers.

Simple fever	27
Intermittent fever	212
Remittent "	5
Typhoid "	6
Total	250

Effects of Heat.

Heat exhaustion	29
Thermal fever	10
Sun-stroke	2
Total	41

Effects of Over-exertion.

Debility and exhaustion	266
Faintness and syncope	44
Total	310
Intemperance	10
Miscellaneous medical cases	596
Total medical cases	5519

IV.—SURGICAL CASES.

Wounds.

Bites and stings	25
Contused wounds	56
Incised wounds	73
Lacerated wounds	100
Gunshot wounds	3
Punctured wounds	11
Total	268

Accidents and Injuries.

Scalds	14
Burns	12
Contusions	96
Dislocations	4
Sprains	64
Fractures	12
Fractured larynx	1
Concussions	4
Foreign body in eye	192
Foreign body in ear	1
Foreign body in throat	4
Hernia	4
Hernia (strangulated)	6
Total	414
Miscellaneous surgical cases	262
Total surgical cases	944
Medical cases	5519
Surgical cases	944
Total	6463

Bureau of Medical Service.

About one-fourth of these cases were of such severity as to require admission to the Hospital wards, while the remainder were capable of being immediately relieved. In the vast majority of cases the patients admitted to the wards recovered so speedily as to be able to return home without aid. In not more than 35 instances during the entire season did the patients continue so ill as to make it necessary to have them conveyed to their homes in the ambulance when the Hospital was closed at nightfall. In no instance was it necessary to deviate from the rule of the Department, that no case of sickness should remain in the Hospital building over night.

Chronic cases.

It will be observed that 3199, or more than one-half the entire number of medical cases, were connected with the digestive organs. Although the majority of these originated at the Exhibition, a considerable number were cases of longer standing. It is important to note this, not only in connection with this class of affections, but with all the other classes, since, in reality, a considerable proportion of the cases were in no way chargeable to the visit to the Exhibition. Thus, so soon as it became generally known that gratuitous medical advice could be had, a large number of persons with chronic affections of a medical or surgical character applied at the Department for relief. It was thought expedient not to refuse such applications, although they were recognized as an abuse of the Medical Department, which was intended solely for the relief of cases of emergency. The great majority of the cases of digestive disturbance were directly traceable to excesses or indiscretions in eating; and, when it is remembered that such vast numbers of persons, collected from all classes of society and accustomed to all varieties of occupation and climate, were exposed to the combined influence of excessive fatigue and excitement, of extreme heat and of irregular diet and hours of eating, it is truly remarkable that sickness from these causes was not vastly more common. It should also be observed that in supplying the enormous demand for certain articles of food it must occasionally have happened that supplies of inferior quality were used. This was particularly the case with regard to articles of such perishable character and of such general consumption as milk, meat, eggs, etc. A forcible illustration of this was given on the 11th of July, when no less than 26 patients with severe cholera morbus were admitted to the hospital in the course of an hour and a half, all of whom had been taken ill soon after partaking of a lunch of pie and milk at one of the restaurants. It cannot be doubted that this violent outbreak was dependent upon some subtle organic change in one of the articles mentioned, probably the milk, by which it acquired highly irritant poisonous qualities.

Causes of diseases of digestive organs.

Bureau of Medical Service.

Probably, however, sickness was less frequently caused by such spoiled or tainted provisions than by excessive fatigue in very hot weather, by the copious use of iced drinks of all kinds while the body was greatly overheated, and by the consumption of indigestible articles of food when in a state of great physical exhaustion. Vast numbers of those who visited the Exhibition did so at great personal and pecuniary sacrifice. Every effort was made, therefore, to condense their visit to all parts of the Exhibition into the shortest possible time, and it is difficult to conceive of the excessive fatigue and exhaustion involved in this attempt. A large proportion of the visitors were women or young persons entirely unfitted for enduring the physical fatigue of a succession of long days, spent on foot, in constant motion, in the midst of vast throngs of people, and with the mind overtaxed with the ever-changing novelties and attractions of the scene. Very many of the visitors came from localities whose climates differed widely from that which they here found. They abruptly changed all their habits of living, and, in too many instances, neglected the hygienic rules which are essential to health.

Conditions favoring sickness on part of visitors.

During the later months of the Exhibition, there were unfavorable reports circulated in regard to the purity of the drinking-water supplied to the Exhibition grounds and the neighboring portion of West Philadelphia; but careful investigation showed that they were unfounded. The water was drawn from the Schuylkill River at a point opposite the Exhibition grounds. It is true that, in the extreme haste with which many of the small buildings within the inclosure were erected, the rules issued on this subject were disobeyed in a few instances, and wells were constructed having connection with one or the other of the two small streams which flowed through the grounds and emptied into the river not far from the above point. In every case, however, this was soon detected and instantly corrected. Any contamination of the water supply from such a source could only have occurred during the first few days of the Exhibition. As a matter of fact, no sickness occurred during this period. Careful analyses were made at short intervals by Dr. C. M. Cresson, which showed that the purity of the water taken from this point of the Schuylkill was fully up to the standard of previous years as well as to that of the water supply of neighboring cities. The most conclusive evidence, however, on this point is to be drawn from the actual experience of the large number of persons who drank the water freely during the entire period of the Exhibition, but who were not exposed to the various causes of sickness which influenced the Guard and visitors. In no single instance did any sickness of a

Drinking-water did not act in any way as a cause of disease.

Bureau of Medical Service.

typhoid or diarrhœal character occur. We have already seen that the amount of typhoid fever among the Guard was small, taking into consideration the peculiar composition of that body, and, further, that the cases which occurred took place within a limited period, marked by unusual meteorological conditions, while the water supply remained unchanged. Finally, we have seen that the cases of diarrhœa occurring among the Guard were light in character and readily amenable to treatment, though all the time the patients were using large quantities of this drinking-water.

Exhibition grounds and vicinity free from any special cause of disease.

As a further evidence of the fact that no special cause of typhoid fever existed at the Exhibition grounds or in their vicinity, it may be stated that in the Twenty-fourth Ward, which embraces almost the whole of Fairmount Park and all of the adjoining portion of the city, the total number of deaths from typhoid fever for the entire year was 44, of which 30 occurred between May 10 and November 10. The population of this ward in 1875 was 41,310, but during the Exhibition period it may be safely estimated—in consideration of the large temporary hotels, all of which were included in this ward, and the enormous number of boarding-houses and private residences which were constructed for the occasion—that the population was at least 75,000, which gives a rate of mortality per 1000 from typhoid fever during this period of only .4.

Conclusions as to sanitary conditions of grounds.

In conclusion, we may state, as the result of careful study of this question of the sanitary condition of the Exhibition grounds, in regard to which so much was said at the time:

First, that there is no evidence to show that any special cause of sickness existed there.

Second. That with regard to the supply of drinking-water in particular, there is no evidence to show that its use predisposed either to typhoid fever or to diarrhœal affections.

Third. That the sickness occurring among the Guard and employees resident within the grounds was due to peculiar causes above considered, which were in no way connected with the sanitary condition of the grounds.

Fourth. That the sickness occurring among the visitors, which was actually dependent upon their visit to the Exhibition, was due exclusively to the effects of over-fatigue, indiscretions in eating and drinking, undue exposure to great heat or to inclement weather, etc.

It remains now in connection with the record of sickness among the visitors to allude to a few peculiarities.

A considerable number of cases showed, as would have been expected, the injurious effects of the extreme heat. Doubtless, this

Bureau of Medical Service.

cause aided in producing many of the cases classed as simple exhaustion. The cases, however, in which sickness was directly traced to the effect of heat were 41 in number, of which 32 occurred between the 25th of June and the 22d of July, during which four weeks the average temperature was 81¾° F. The majority of cases, 29 in number, presented the ordinary symptoms of nervous exhaustion following upon exposure either to the direct rays of the sun or to a very high degree of temperature within-doors. In the 10 cases recorded as thermal fever, the symptoms were much more severe. The patients were still conscious, or in some cases delirious; there was intense heat of surface, congestion of the eyes, deep flushing of the face, and great rapidity of the pulse. These cases were treated by immersion in baths of ice-water, and promptly recovered. The 2 cases recorded as sun-stroke were characterized by sudden and alarming development of temperature, the patients almost instantly passing into a state of coma with stertorous respiration, with livid congestion of the face and surface, and with extremely small and rapid pulse. They were stripped and were then vigorously rubbed with pieces of ice until a marked reduction of temperature took place. As this occurred, consciousness returned, followed in both cases by rapid recovery.

Direct effects of heat.

Nervous diseases.

In regard to the class of nervous diseases, there are several points of interest to be noted. Thus, there were but two cases of apoplexy, one of which occurred in an intemperate man, and proved almost immediately fatal, while the other was a mild attack, probably of localized apoplectiform congestion of the brain, occurring in a young man engaged as a chair-pusher, an occupation which involved exhausting effort and prolonged exposure to the sun. There were only 28 cases of epilepsy treated at the hospital among 9,910,966 visitors to the Exhibition. It is of course highly probable that very many more epileptics were included in this number who were not so unfortunate as to have an accession of their terrible malady while within the grounds. The cases recorded as vertigo were almost exclusively dependent upon indigestion. As a matter of purely medical interest, it may be mentioned that a single case of that rare affection, Meniére's disease or labyrinthine vertigo, presented itself at the Department.

Respiratory and circulatory diseases.

The only remark to be made in connection with the class of respiratory and circulatory diseases is to call attention to the very small number of cases, only 21, who were attacked with disturbance of the heart, either due to functional or organic disease; as well as to the very small number of cases of hæmoptysis, only 13, which occurred among the enormous number of visitors. We have already re-

Bureau of Medical Service.

marked that the large number of cases of digestive disorders, 3199, were nearly all attributable to excesses or indiscretions in eating or drinking, with the exception of cases of a chronic character.

Absence of intoxication.

In illustration of the class of persons who visited the Exhibition, it is to be observed that but 10 cases of intoxication were brought to the hospital for treatment. It was anticipated that a considerable number of cases of abortion or miscarriage would occur in consequence of the excessive exertions and fatigue incurred by many visitors to the Exhibition. In but one case, however, did abortion result; and in one other miscarriage was threatened, but was averted by rest and the use of opium.

Deaths within the grounds.

There were but 4 deaths within the grounds during the entire period of the Exhibition. Of these, 2 occurred from organic disease of the heart and 2 from apoplexy.

Surgical cases.

The surgical cases, 944 in number, were for the most part of minor severity. It is a striking illustration of the good order which prevailed among the vast crowds which daily assembled in the grounds that there was not a single case of injury resulting from personal violence. This was especially remarkable on those days when some particular attraction drew unusually large numbers of visitors. Yet even on "Pennsylvania day," when over a quarter of a million persons were gathered within the grounds, most of whom remained until long after nightfall, so perfect was the good temper of the crowd, so entirely capable were they of taking care of themselves, and so careful to respect each other, that, although no special precautions were taken and no additional constabulary was employed, the occasion was entirely unmarked by any unusual accident. No quarrel occurred, and no woman or child was crushed or trampled upon. The passenger railway which traversed the grounds carried 68,273 persons on that day; and, although the crowded trains frequently seemed to literally plow their way through the dense masses which lined the tracks, there was not a single accident. It may be questioned whether any festival, equally remarkable in all respects, has ever occurred. It is also noteworthy, when the enormous amount of machinery in motion, and the throngs of curious visitors constantly surrounding each machine are considered, that not a single accident happened, with the exception of a few trifling contusions and lacerations occurring among the workmen. There were 3,784,142 passengers in all carried by the Narrow-Gauge Railway Company, without the occurrence of any accidents.

Remarkable absence of accidents.

For the entire period of the Exhibition the ratio of cases of sickness among the visitors was 1 in every 1533. The greatest number of patients treated in one day was 114, on September 28, "Pennsy-

Bureau of Medical Service.

vania Day," when there were 274.919 visitors, thus giving 1 patient in every 2411; while on the 20th of July there were only 25,936 visitors, and 58 cases of sickness, or 1 in every 447, the highest percentage occurring during the Exhibition.

The following table shows the number of patients treated at the Hospital, and the proportion borne to the total number of visitors on the days when the attendance at the Exhibition was greatest. The mean temperature has also been placed in connection with the other data:

Amount of sickness in proportion to number of visitors.

TABLE V.

	Number of Visitors to the Exhibition.	Number of Patients treated at the Hospital.	Ratio.	Mean Temperature, Fah.
May 10, Opening Day	186,672	5	1 in 37,334	56.7
July 4	56,494½	48	1 in 1,177	82.5
August 24, New Jersey Day	67,052	60	1 in 1,117	73.7
September 7, Connecticut Day	75,044	59	1 in 1,272	63.0
September 14, Massachusetts Day	97,868	80	1 in 1,222	68.2
September 21, New York Day	134,588	60	1 in 2,243	61.7
September 28, Pennsylvania Day	274,919	114	1 in 2,411	56.2
October 5, Rhode Island Day	100,946	48	1 in 2,103	58.5
October 12, New Hampshire Day	115,422	53	1 in 2,177	45.0
October 19, Delaware and Maryland Day	176,407	71	1 in 2,484	53.7
October 26, Ohio Day	135,661	73	1 in 1,852	45.5
October 27, Vermont Day	108,080	53	1 in 2,039	43.7
November 10, Closing Day	121,721	31	1 in 3,926	39.7

The opening day may be disregarded in this respect for the reasons already given. With reference to the other days, it will be observed that so long as the average temperature was moderate, say between 40° and 60°, the sickness among the visitors was apparently not influenced by it, but varied within certain limits from other causes. When, however, the average temperature was materially above 60°, it was found that the proportion of sickness increased considerably. As the temperature was the chief agent in influencing public health during the Exhibition, it will be interesting to subject it to a more careful study. In order to facilitate this, Charts Nos. 1 and 2 have been prepared. The first feature which is apparent from these is the excessive temperature that prevailed during the thirteen weeks of June, July, and August. During this entire period the average weekly temperature was continuously above 70°, and during the four weeks ending July 22, the average weekly temperature was 81¾° Fah. The effects of this protracted heat were aggravated by the dry character of the season. The influence of the elevated temperature upon the amount

Influence of high temperature.

Bureau of Medical Service.

and character of mortality in the city at large is very apparent, and will be carefully discussed later on. We would now ask attention to its influence upon the admissions to the Exhibition and upon the amount of sickness among the visitors. It will be seen that during the first 5 weeks of the Exhibition, up to June 10, there was a steady increase in the total weekly admissions to the grounds, so that for the week ending with the above date they numbered 233,406. At this time it was confidently expected that, as the traveling season was about to begin, there would be a rapid rise in the attendance. Unfortunately, however, the heated term, which was destined to be so long and so intense, began at that date. In consequence, undoubtedly, of the reports concerning the heat which were quickly circulated, the attendance, instead of increasing, immediately showed a falling off. In the week ending July 1 the number had fallen to 210,108; average weekly temperature, 81°. The total for the week ensuing, average temperature being 80°, was brought up to 315,853 by the large number of visitors attracted by the ceremonies of the 4th of July; but in the following week, with an average temperature of 83°, the total fell to 174,792½; and in the week after, with an average temperature of 80°, it continued to fall, and reached the number 166,744. At this point a break in the continued heat occurred, and the attendance instantly began to rise, but it was not until the 15th week of the Exhibition that the number of visitors had attained the point where it stood in the 5th week. From this point the attendance rapidly rose, and was no longer influenced by the temperature, which continued moderate until the close of the Exhibition. The irregularities in the curve showing admissions (represented by the dotted black line) were chiefly, if not entirely, dependent upon the occurrence of certain days of particular interest. While undoubtedly the total admissions to the Exhibition were seriously diminished in consequence of the extreme heat which raged during the month of July and parts of June and August, it is a matter of congratulation that large numbers of strangers did not visit Philadelphia during that time. It would have been impossible for the vast throngs which crowded the grounds during the latter part of the season to have visited them during the heated term without a lamentable amount of sickness resulting. The effects of the heat upon the general attendance at the Hospital are clearly shown by following the dotted red line in Chart No. 2. The fact that after the marked fall in this attendance which followed the break in the heated term the number of cases again began to increase in the 15th week, and continued quite large during the rest of the season, was entirely due

Influence of high temperature on admissions and on amount of sickness.

Bureau of Medical Service.

to the great and progressive increase in the general admissions to the grounds, which began at that date. Although this effect is shown in the general attendance at the Hospital, it is far more clearly displayed in regard to diarrhœal affections (see dotted yellow line in Chart No. 3) and the class of cases showing exhaustion in its various forms. (See dotted yellow line in Chart No. 2.)

Sanitary statistics of Philadelphia

We invite attention, in the next place, to the sanitary statistics of the city of Philadelphia at large during the period of the Exhibition. In endeavoring to estimate the effect produced upon the health of the community by the sudden introduction of vast numbers of unacclimated strangers, it is necessary to bear in mind the peculiarities of the season and the very great differences which occur, without appreciable cause, in the mortality from some of the principal diseases in different years.

Estimated population of city during Exhibition period.

It is also highly important to determine as closely as possible the movement of the population of the city during this period. It is needless to say that, for the following reasons, this can be done with only approximative accuracy. In the first place, the floating portion of the population was directly absorbed into and blended with the resident population in a most remarkable manner. In other cities, when an occasion draws a large concourse of visitors, the additional numbers are accommodated chiefly in hotels and boarding-houses. Of course a considerable number would also be received as guests into private families, but these would form but a very small proportion of the whole. On the other hand, although the hotel accommodation in Philadelphia was very largely increased in anticipation of the Exhibition, and although many additional boarding-houses were opened, the great bulk of the floating population was quartered in private houses. This was partly the result of the operations of the Centennial Boarding-House Agency, which enabled all housekeepers, who so desired, to receive as many lodgers as they could accommodate; but it was chiefly due to a system of hospitality so lavish and so universal that it has probably never before been equaled. The almost unlimited extent to which this reception of guests and lodgers was carried can only be understood by recalling the fact that Philadelphia, with a population estimated in the early part of 1876 at 817,488, contained, in addition to other kinds of buildings, over 143,000 houses occupied by families, thus giving an average of less than six persons to each residence. The second source of difficulty in estimating the total population of the city lay in the frequent and extreme fluctuations which occurred in it. In the following statements, the ordinary floating population necessarily incident to the daily life of a great

Bureau of Medical Service.

Fluctuations in number of strangers in city.

city is of course excluded. Bearing in mind the result of the census above given, it may be safely estimated that from May 10 to June 25, the beginning of the period of intense heat, the daily number of strangers in the city was from 30,000 to 50,000. From June 25 to August 10 the number must have fallen off considerably, and probably ranged from 15,000 to 25,000 per diem. After August 1 the number steadily and rapidly increased, so that during the last three months of the Exhibition it ranged from 50,000 to 200,000. It will be seen later that these fluctuations in the population bear an interesting relation to the variation in the amount of certain diseases. In order to serve as a basis of calculation it is necessary to decide upon a figure as representing the average population during the entire Exhibition period. After much reflection it appears proper to adopt the figure 900,000 as being unquestionably a safe and rather low estimate, and we shall accordingly use this as our basis in computing and comparing all ratios of sickness, mortality, etc. There are, however, two sources of difficulty met with in attempting to give any definite idea of the health of Philadelphia during this particular period. The first of these is incidental to all such calculations, and depends upon the fact that the records of the Board of Health give only the number of cases of death from various causes, and that no means exist for obtaining the actual number of cases of such sickness which have occurred. In regard to dangerous affections, where the rate of mortality is considerable and more or less definite, it is possible to make an approximative calculation of the total number of cases which have occurred, based upon the number of deaths. But in the case of comparatively non-fatal affections, it is obviously impossible to apply any such rule. The other source of difficulty lies in the fact that much of the sickness which occurred was among visitors, who in many instances, as soon as attacked, returned to their homes. It is of course impossible to estimate what amount of mortality may have thus occurred in different parts of the country from sickness actually contracted in Philadelphia. So much discussion of this question has taken place in many quarters, both at the time and since the close of the Exhibition, and so many statements were made which we are compelled to regard as greatly exaggerated, that it seems necessary to consider it somewhat in detail. It cannot be doubted that, owing to the unusually severe character of the season, and perhaps to peculiar atmospheric conditions which we cannot appreciate, there existed a strong tendency to diarrhœal and typhoid affections over a large section of the country. During the six months with which we are chiefly concerned the above diseases are the only

Sources of difficulty in estimating health of city.

Sickness among visitors to Exhibition after their return home.

Bureau of Medical Service.

ones which caused any considerable amount of mortality, and we shall therefore devote particular care to their consideration. In speaking of the sickness among the visitors to the Exhibition, we have already alluded to the numerous causes which predisposed them to diarrhœal and febrile affections. We beg here to refer to what was said at that point (see pages 654–5), because we are convinced, from careful observation and reflection, that there existed no special conditions in the city, either at the Exhibition grounds or elsewhere, whether in the form of imperfect drainage, impure drinking-water, or any other special local feature, which were calculated to induce sickness. We have endeavored to show that, on the contrary, the great proportion of sickness which did occur among the visitors to the Exhibition was dependent upon the circumstances of their visit, such as long and hurried journeys, excessive fatigue while at the grounds, indiscretions in eating and drinking, etc.

Sickness dependent on circumstances under which Exhibition was visited.

Not only indeed did large numbers of persons arrive in the city thus predisposed to contract sickness from any cause, but we became acquainted with the fact that in many cases sickness was actually contracted and had even developed itself before their arrival here. It is of course impossible to estimate the number of such cases, but from our personal knowledge of several deaths and of not a few cases of serious sickness, occurring in this manner, we infer that the total must have been large. Indeed, when we consider the full force of these influences, and the vast numbers upon whom they operated, it appears remarkable that the mortality statistics were not more seriously affected than they were. Thus, we find that out of 10,294 deaths in Philadelphia from all causes during the six months from May 10 to November 10, only 1333, or 11.8 per cent., were from diarrhœal affections. Of this number no less than 1232 deaths occurred among children under 5 years of age, leaving only 101 deaths from all diarrhœal affections during the entire Exhibition period among adults and children above 5 years of age.

No excessive amount of diarrhœa in the city.

In comparing this with the mortality from the same causes during the corresponding period of previous years, it is found that it is even below the average. Thus, while during the hot months of 1876, from May to November inclusive, the mortality from diarrhœal affections among children under 5 years of age was 1.38 per 1000 of the total living population, during the 7 years from 1862 to 1868 inclusive the rate was 1.78 per 1000. In regard to diarrhœal affections occurring among adults, the record of 1876 shows no less favorable results in comparison with previous years. To show how entirely these diseases were under the influence of high temperature, we refer to Chart

Bureau of Medical Service.

Marked influence of heat on mortality from diarrhœa.

No. 3. By following the yellow line it will be seen that, after the temperature had continued above 70° for a short time, the mortality from diarrhœal affections began to increase; and that, from the close of June, when the mean weekly temperature reached 80°, it continued to increase with frightful rapidity for 3 weeks, when a decrease in temperature was accompanied by a fall in the mortality; and finally that, during the last week of July and the first week of August, when the mean temperature was 71° and 70°, this fall continued at a rapid rate. A rise in weekly temperature to 78° and 76°, during the middle of August, was accompanied with a moderate rise in the mortality from diarrhœal affections, quickly followed, however, by a still more decided and persistent fall, so that after the first of September the number of deaths from that cause was comparatively small. It has already been shown that scarcely any part of this mortality was connected with the influx of visitors to the city; and this is further proved by the fact that from the very time, September 1, when the mortality rapidly and finally fell, the attendance at the Exhibition grounds rapidly and steadily rose. The number of cases of diarrhœal affections treated at the Medical Department, and due exclusively to such causes as indiscretions in eating and drinking, followed with considerable closeness the fluctuations in the weekly attendance at the Exhibition. As corroborating the truth of what has more than once been stated with regard to the sanitary advantages of Philadelphia we ask attention to the following table, which shows the relative mortality from diarrhœal affections during 1876 in Philadelphia and some other large American cities:

Mortality from diarrhœa in large cities.

1876.	PHILADELPHIA.	NEW YORK.	BROOKLYN.	BALTIMORE.	CHICAGO.
Population	825,594	1,054,000	506,233	355,000	420,000
Mortality from diarrhœal affections.	1,417	3,782	1,542	866	954
Death-rate from diarrhœal affections per 1000 living	1.66	3.50	3.04	2.44	2.28

Mortality from typhoid fever.

Next to diarrhœal affections, which caused a mortality of 1333 out of 2485 deaths from all zymotic diseases during the Exhibition period, typhoid fever was more fatal than any other disease of this class. No less than 450 deaths are recorded as having occurred during the six months from this affection; and taking the entire year 1876, the total number of deaths from this cause was 761.

We have already expressed our belief that in a not inconsiderable portion of these cases, inflammatory diarrhœas of a typhoid type were reported as cases of true typhoid fever. But this does not in-

Bureau of Medical Service.

terfere with the fact that during the entire year 1876 there was a much larger amount of typhoid fever in this city than is usual. In order to clearly show this it is only necessary to give the following table of the annual mortality from typhoid fever for the past 16 years, with the annual death-rate per 1000 living:

Excessive mortality from typhoid fever in 1876.

Year	1861	1862	1863	1864	1865	1866	1867	1868	1869	1870	1871	1872	1873	1874	1875	1876
Population in thousands	565	565	565	565	565	674	674	674	674	674	674	725	750	775	800	825
Total mortality from typhoid fever	281	654	486	648	773	381	367	395	373	409	313	369	382	472	420	760
Annual death-rate per 1000 living	.49	1.15	.85	1.14	1.36	.56	.54	.58	.55	.60	.47	.50	.50	.60	.52	.91

During the Exhibition period the population may be estimated at 900,000, and this, with a mortality during those six months of 450 from typhoid fever, gives a rate of annual mortality from this cause of 1 per 1000. It will be seen, on examining this table, that the annual death-rate per 1000 from typhoid fever during last year was exceeded during the years 1862, 1864, and 1865, while it was very closely approached in 1863. In considering the causes which led to the high rate of mortality from this disease during the latter years, it will be found that it was connected with the large number of soldiers who were quartered in and around the city. So, too, in considering the sudden increase in typhoid fever that occurred during the year 1876, the most important cause which suggests itself is the enormous influx of unacclimated visitors during the Exhibition period. It has long been known, in connection with typhoid fever, that none are so likely to be attacked as the residents of small towns or rural districts, when visiting large cities to whose climate and conditions of life they are unaccustomed. This is undoubtedly because such persons are much more susceptible than the permanent residents to the causes of typhoid fever, even though existing only in the moderate degree which is too often found in large cities. The truth of this may be realized from the fact that during the Exhibition period in 1876 the number of deaths from typhoid fever was 450, as contrasted with 207 deaths from this cause during the corresponding period of 1875.

This excess due to influx of unacclimated visitors.

That this increase was due to the vast influx of unacclimated visitors, and not to any special prevalence of the causes of typhoid fever during that period, may be inferred from the fact that in those hospitals which received almost exclusively patients from among the poorer classes resident in the city, the number of cases of typhoid and typho-malarial fevers treated between May 1 and November 15, 1875, was 49, while during the corresponding months of 1876 the number was only

Cases of fever treated at hospitals.

Bureau of Medical Service.

28. On the other hand, in those hospitals which receive patients chiefly of a better class, and to which, consequently, strangers who may be taken sick while on a visit to the city are frequently admitted, the number of cases of typhoid and typho-malarial fevers treated during the Exhibition period of 1876 was about double that treated during the corresponding period of 1875.

Ratio of deaths from typhoid fever to number of visitors.

Still more convincing evidence in favor of this view is to be found in an examination of the relation borne by the number of deaths from typhoid fever to the number of visitors to the Exhibition grounds. (See Chart No. 4.) It will be seen by the course of the solid blue line, indicating the mortality from typhoid fever, that there was no marked increase beyond the ordinary mortality from this affection from May 1 to the last week of July, during which time the number of visitors in attendance at the Exhibition was low, as is shown by following the dotted black line which indicates the weekly attendance. (See also tabulated statement at foot of page.)

During this time, also, the number of strangers arriving in the city was especially small, the attendance at the Exhibition being chiefly of

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Table showing ratio of mortality from typhoid fever to admissions and attendance at Hospital.

Week ending		Mortality from Typhoid Fever in Philadelphia	Admission of Visitors to the Exhibition.	Attendance at the Centennial Hospital.
May	13	7	235,251½	14
“	20	10	115,236	19
“	27	12	155,724	51
June	3	10	204,704½	62
“	10	10	233,406	69
“	17	12	216,536	117
“	24	12	232,535	159
July	1	10	210,108	204
“	8	9	315,853	301
“	15	10	174,792½	301
“	22	13	166,744	252
“	29	18	185,464½	259
August	5	22	196,277	205
“	12	23	210,075	282
“	19	26	241,078	276
“	26	31	347,082	334
September	2	29	321,997	348
“	9	24	446,032	347
“	16	12	495,694	359
“	23	31	624,372	359
“	30	15	758,160	349
October	7	29	551,669	398
“	14	21	584,011	307
“	21	10	700,600	322
“	28	13	641,021	336
November	4	15	628,348	322
“	10	16	596,102	211

Bureau of Medical Service.

the residents of Philadelphia. The large number of visitors attracted to the city by the ceremonies of the 4th of July, remained for so brief a time that they exerted no influence upon the mortality from this cause. After the week ending July 29, a steady rise in the weekly attendance occurred, which continued to progressively increase, with occasional fluctuations due to special causes, until the close of the Exhibition. With this there was noticed a rise in the weekly mortality from typhoid fever, which continued until the weeks ending August 26 and September 2, when, with a weekly attendance of 347,082 and 321,997 respectively, the mortality from typhoid fever was 31 and 29. After the latter date, although there is a still further marked increase in the weekly attendance at the grounds, the deaths from fever never exceeded the figures above given; but, on the contrary, after October 10 there was a very marked reduction in the weekly mortality from this cause. The marked effect of the intense heat upon the mortality from diarrhœal affections, not only in Philadelphia but elsewhere, has already been shown (see pages 21, 22); and it is interesting to observe that no similar effect was produced upon the mortality from febrile diseases.

Ratio of mortality from typhoid fever and admissions.

No excess of mortality from typhoid fever in other cities.

The amount of typhoid fever in neighboring cities during the Exhibition period was not more than usual during the corresponding months of other years, and this fact is interesting when we bear in mind the statements which were widely circulated at the time, that very numerous cases of typhoid fever occurred among persons who had returned home from their visit to the Exhibition. It is difficult to conceive how this could have been so to any extent without influencing perceptibly the mortality from the febrile affections during that period. It may therefore be stated, in conclusion, that during the six months of 1876, from May 10 to November 10, there occurred in Philadelphia an unusual number of deaths from typhoid fever; that this excess over the usual mortality amounted to about 200 deaths; that the occurrence of this unusual mortality from typhoid fever was not due to the existence of any special cause of that disease in connection with the Exhibition, or to the prevalence in an unusual degree throughout the city at large of its ordinary causes; but that it was due to the enormous influx of unacclimated visitors, who were rendered additionally liable to the action of morbid influences of every kind by their mode of life while in this city.

Conclusions as to prevalence of typhoid fever.

Definition of typhoid and typho-malarial fever.

Having thus spoken of the statistics of typhoid fever during 1876, both in this city and elsewhere, a few words only upon its character are called for in this report. It will have been observed that the terms typhoid and typho-malarial fever have been used. The first of

Bureau of Medical Service.

Definition of terms.

these is employed, as is well known, to designate a specific febrile affection, characterized by a peculiar form of ulceration of the intestines, and caused, so far as is yet known, by the emanations from decomposing animal matter, and especially by those from the evacuations of patients having this same disease. The term typho-malarial fever has been introduced of late years to designate a disease in which it is believed the specific poison of typhoid fever exists, complicated with malarial poison. Medical opinion is still somewhat divided with regard to the latter affection, although it is generally acknowledged that such a disease, due to the combined action of the two poisons, does actually exist. It seems probable, however, that the term typho-malarial fever has often been used inaccurately, so as to include cases of irregular typhoid fever, and probably also cases of simple intestinal catarrh with marked typhoid prostration and irregular febrile action.

Characters of typhoid fever of 1876.

We believe that the typhoid fever which occurred during 1876 was not much modified, at least here and in neighboring localities, by the admixture of a malarial element. This opinion is based not only on the characters of the disease as it came under our notice, but also on the small amount of malarial fever of any form which occurred here during that season. It is true that, in a considerable number of instances, the cases were termed typho-malarial fever in the returns to the Board of Health, but we are convinced that the large majority of such cases were either uncomplicated typhoid fever of irregular or abortive type, or else catarrhal diarrhœa with marked typhoid prostration of system. Indeed, we have more than once expressed our belief that a considerable proportion of the deaths recorded as from typhoid fever were in reality due to this latter condition. The typhoid fever itself was very irregular. In many cases it ran a much shorter course than in the usual typical form, not exceeding 15 to 18 days. Another marked peculiarity was the frequent occurrence of hemorrhage from the bowels, which took place in a larger proportion of cases than usual.

Ratio of mortality.

It is, of course, difficult to estimate the ratio of mortality of a disease occurring under such circumstances, but from the data in our possession it may be stated as about 18 per cent. As an illustration of the extent to which typhoid fever is influenced both in its degree of prevalence as well as in its mortality by epidemic causes, which it is difficult to appreciate, it may be stated that in Paris (where the mortality during the previous three years was as follows: in 1873, 1007; in 1874, 846; in 1875, 1001) the number of deaths from this disease during the year 1876 amounted to 2073, and so severe was the type

Bureau of Medical Service.

that the rate of mortality rose as high as 35 per cent. of all cases treated.

We have entered thus at length into the discussion of the typhoid fever of 1876 on account of the large amount of public interest which this disease attracted during the Exhibition period. In summing up our remarks upon the sanitary condition of Philadelphia during this interesting time, it will be seen that the general results do not differ materially from those stated in our circular issued in the latter part of September. (See Exhibit A, Circular No. 3.)

Circular No. 3, issued in September.

At that time the data in our possession did not enable us to distinguish between the different classes of diseases with as much accuracy as we have done in the following table, which embraces the entire Exhibition period:

Results brought up to close of Exhibition.

	Population in Thousands.	Total Mortality from all Causes.	Annual Death-Rate per 1000 Living.	Total Mortality from all Zymotic Diseases.*	Annual Death-Rate per 1000 from Zymotic Diseases.	Total Mortality from Typhoid Fever.	Annual Death-Rate per 1000 from Typhoid Fever.	Total Mortality from Diarrhœal Affections.	Annual Death-Rate per 1000 from Diarrhœal Affections.
London	3489	37,592	21.54	6905	3.99	606	.34	3149	1.80
Philadelphia	900	10,294	22.77	2485	5.5	450	1	1333	2.96
Baltimore	350	4,020	22.97	1524	9.2	148	.84	652	3.72
Chicago	420	4,927	23.46	2277	10.8	108	.51	918	4.37
Boston	342	4,144	24.33	1422	8.3	98	.56	772	4.5
Brooklyn	506	6,453	25.49	2583	10	53	.20	1485	5.86
Paris	1851	23,735	25.63	....	....	1122	1.21	....	....
New York	1054	15,492	29.40	5884	11	168	.30	3527	6.69
Berlin	980	16,407	33.86	....	....	393	.81	....	....

Favorable sanitary position of Philadelphia.

It will be seen from this that of the nine large cities from which we have been able to secure returns, Philadelphia was second to London alone in point of average total mortality. It will also be seen that while the annual death-rate from typhoid fever per 1000 living in Philadelphia was higher than in any other of these cities excepting Paris, the annual death-rate per 1000 from all zymotic diseases, which include diarrhœal affections, continued and eruptive fevers, etc., was relatively smaller in this city than in any other save London. This result is chiefly due to the relatively small mortality from diarrhœal affections, which gave an annual death-rate per 1000 of only 2.96, as contrasted with 6.69 in New York, or 5.86 in Brooklyn.

If we have been correct in our conclusions previously stated (see pages 14, 25), it may therefore be confidently asserted that Phila-

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* By zymotic diseases are to be understood all diarrhœal affections; eruptive fevers, such as smallpox, measles, scarlatina, etc.; typhoid and malarial fevers; diphtheria, etc.

Bureau of Medical Service.

delphia has again vindicated her claim to be regarded as the most healthy city in the world, with a population of over 500,000, with the single exception of London.

Some of the causes of this are stated in the circulars alluded to (see Exhibit A), and it is owing to the nature of these causes that the unprecedented risks of a sanitary nature connected with so vast an influx of strangers to the city were met with such signal success.

Acknowledgment.

It is proper to state that in the establishment of the Hospital a full supply of medicines was presented, with great liberality, by the following well-known firms: Messrs. Powers & Weightman, Rosengarten & Sons, Hance, Brothers, & White, and Bullock & Crenshaw, all of Philadelphia.

BUREAU OF MEDICAL SERVICE.—EXHIBIT A.

OFFICIAL CIRCULARS.

UNITED STATES CENTENNIAL COMMISSION.

INTERNATIONAL EXHIBITION, 1876,

PHILADELPHIA.

Bureau of Medical Service.

BUREAU OF MEDICAL SERVICE.

CIRCULAR NO. 1.

Circular No. 1.

Owing to the very large number of persons who contemplate a visit to Philadelphia during the coming summer, it seems important that the utmost publicity should be given to all facts bearing on the sanitary condition of the city.

The following statistics, which have been obtained from the most authentic sources accessible, represent the mortality in some of the chief cities of the world during the past four or five years:

	Number of Years.	Average Population.	Average Total Mortality.	Average Death-Rate per 1000.
Vienna	5	648,560	20,424	31.42
New York	5	994,458	29,601	29.93
Berlin	4	950,000	28,420	29.91
London	5	3,284,488	76,741	23.33
Paris	4	1,851,792	42,724	23.06
Philadeplhia	5	744,831	16,573	22.27

While thus showing an average rate of mortality more favorable than that found in any other city containing over 500,000 inhabitants, Philadelphia has recently (1874) attained a degree of healthfulness almost unparalleled, viz.: with a population at that time of 775,000, the number of deaths was but 14,966, giving a death-rate of only 19.3 per thousand. These very favorable results are largely due to the abundant and cheap water supply, and to the opportunities given, even to the poorest citizen, for the enjoyment of pure country air in the great Fairmount Park, which contains 2991 acres. The extent to which this is valued by the citizens may be inferred from the fact that during the year 1875 the Park was visited by over eleven million persons.

The most powerful influence of all, however, is the absence of that overcrowding of the population, which is the most fruitful source of sickness and death in many quarters of nearly all other large cities. This will be more clearly comprehended when it is remembered that the 817,488 inhabitants of Philadelphia are spread over an area of $129\frac{1}{8}$ square miles, which are traversed by more than one thousand miles of streets and roads; and that the city contains, in addition to other kinds of buildings, 143,000 dwelling-houses occupied by families,—a number exceeding by over 40,000 that of any other city in America.

The climate of Philadelphia is also, on the whole, a favorable one, although presenting many of the peculiarities common to inland localities. The mean annual temperature of the last ten years is 53.73° Fahrenheit; the average annual rain-fall is about forty-five inches.

Bureau of Medical Service. Circular No. 1.

The following table exhibits the mean temperature of each month for the past ten years, showing that the range is far less extreme than is found in many other less favorably-situated localities:

MEAN TEMPERATURE (FAHRENHEIT) OF EACH MONTH DURING THE PAST TEN YEARS.

January	32.72° F.	July	78.74° F.
February	33.12 "	August	75.92 "
March	39.16 "	September	67.72 "
April	53.36 "	October	56.03 "
May	63.24 "	November	43.34 "
June	73.54 "	December	33.92 "

It is thus seen that only during the months of June, July, and August does the mean temperature rise to a high point. During this period there are very rarely any prevailing epidemic diseases; and the chief mortality occurs among children, especially among the poorer classes.

The health of Philadelphia at present is unusually good. Timely efforts have been made to secure an abundant water supply to meet the great increase in the demand which must be expected this summer, as compared with previous years. Constant watchfulness will be exercised by the authorities to maintain cleanliness, and to avoid or remove every possible cause of disease.

Within the Exhibition grounds a rigid sanitary inspection will be maintained, under the control of the Bureau of Medical Service; and thus a guarantee will be afforded that no cause of infection or disease will be allowed to occur through neglect of this important duty.

The object of this circular has been to call attention to the unusual sanitary advantages of Philadelphia, and to the preparations which have been made to insure the highest possible degree of healthfulness during the approaching Exhibition season. It is proposed to issue at certain intervals other circulars, announcing in an official and accurate manner the sanitary condition of the city, so that entire security may be felt by all who desire to visit the Centennial International Exhibition.

WILLIAM PEPPER, M.D., *Medical Director.*

15th April, 1876.

Circular No. 2.

CIRCULAR NO. 2.

[POSTER USED IN THE BUILDINGS AND GROUNDS.]

THE BUREAU OF MEDICAL SERVICE

has been organized for the purpose of rendering immediate gratuitous aid in all cases of sudden illness or injury occurring to visitors and others within the Exhibition grounds.

The Medical Director has secured the services of a staff of six well-known and able physicians, who will be on duty from 9 A.M. to 6 P.M., at the Hospital building, which is centrally situated in Landsdowne Ravine, in the rear of the Judges' Hall, and is comfortably and suitably arranged for temporary relief and comfort of all in need.

In connection with the Hospital service, stretchers are placed at many points, by which such cases may be immediately carried to the Hospital, and an ambulance by which, when necessary, they can be removed to their residences. Any person needing medical aid may apply to the Guard, who are instructed to assist them to the Hospital without delay.

The Hospital may be recognized by its flags, one being the United States flag, having the words Centennial Medical Department printed across the centre; the other, a white flag, with a large red Geneva cross in the centre. The officers will be recognized by the badge, a white shield, with red Geneva cross, above which is a blue enameled bar, surmounted by the American eagle.

May 10, 1876.

WILLIAM PEPPER, M.D., *Medical Director.*

Bureau of Medical Service. Circular No. 3.

CIRCULAR NO. 3.

BUREAU OF MEDICAL SERVICE.

In a former circular issued from this Department, the exceptionally favorable position which is occupied by Philadelphia, in comparison with the other great cities of the world (*i.e.*, cities containing over 500,000 inhabitants), in regard to its sanitary advantages and average rate of mortality, was shown by carefully-prepared statistics. In anticipation of the unusually large number of visitors who would undoubtedly be present in the city during the continuance of the International Exhibition, great efforts were made by the municipal authorities, as well as by those in charge of the Exhibition grounds, to obviate every cause of disease. The details of these arrangements will be published in the official reports of the various departments, which will appear after the close of the Exhibition.

It is owing to their thoroughness that, despite the very severe and prolonged heat of June and July, and the vast number of unacclimated strangers constantly present in Philadelphia since the 10th of May, the general health of the city has been remarkably favorable. With the exception of the four weeks ending July 22, the range of temperature for the past five months has been about the average. Thus, for the entire period of twenty weeks since May 10, the mean daily temperature has been 71.30° Fah., while the average for the same months during the past ten years has been 71.82° Fah. The mean temperature of the four weeks referred to (ending July 22), on the other hand, was 80°, 83°, 83°, and 81° respectively, giving an average for the month of 81.75° against 75.5° Fah., the mean temperature of the corresponding period of the previous year.

The following table, showing the relative mortality of Philadelphia and some of the larger American and European cities, has been prepared with strict care from the official records. The periods selected for comparison correspond as closely as possible. It will be seen, on careful examination, that the past season has not been an unfavorable one:

CITIES.	Estimated Population.	Number of Weeks included, and Date.	Average Mortality per Week from Typhoid Fever and Diarrhœal Affections.	Average Mortality per Week from Zymotic Diseases.	Average Mortality per Week from all Causes.	Annual Death-Rate per 1000 during Week from Typhoid Fever and Diarrhœal Affections.	Annual Death-Rate per 1000 during Week from Zymotic Diseases.	Annual Death-Rate per 1000 during Week from all Causes.
London.........	3,254,260	26 weeks, including the quarters ending June 19 and Sept. 26, 1875.	105.5	291	1467.4	1.66	4.62	23.40
Philadelphia..	900,000	20 weeks, from week ending May 13 to week ending Sept. 23, 1876.	83.8	112	406.5	4.84	6.47	23.48
Chicago	420,000	18 weeks, from week ending May 13 to week ending Sept. 9, 1876.	52	80	196	6.44	9.9	24.27
Boston..........	342,000	18 weeks, from week ending May 13 to week ending Sept. 9, 1876.	36.7	57.4	161	5.56	8.73	24.48
Baltimore......	360,000	19 weeks, from week ending May 13 to week ending Sept. 16, 1876.	48.9	58.1	172.36	6.91	8.37	24.80
Paris	1,851,792	26 weeks, including the quarters ending June 25 and Sept. 24, 1875.	64	....	896	1.76	....	25.16
Brooklyn.......	506,223	20 weeks, from week ending May 13 to week ending Sept. 23, 1876.	75.7	115	262	7.74	11.81	26.91
New York.....	1,064,236	19 weeks, from week ending May 13 to week ending Sept. 16, 1876.	174.9	262	629.7	8.52	12.79	30.73
Berlin...........	950,000	26 weeks, including the quarters ending June 30 and Sept. 30, 1873.	201	....	626	10.92	....	34.32

Bureau of Medical Service. Circular No. 3.

It will be further observed that, as in the table published in the former circular, Philadelphia occupies an exceptionally favorable position. With the exception of London, whose rate of mortality is nearly identical, Philadelphia presents a considerably lower rate than any other of the great cities, while in comparison with its nearest neighbors, New York and Brooklyn, its superiority is both striking and suggestive.

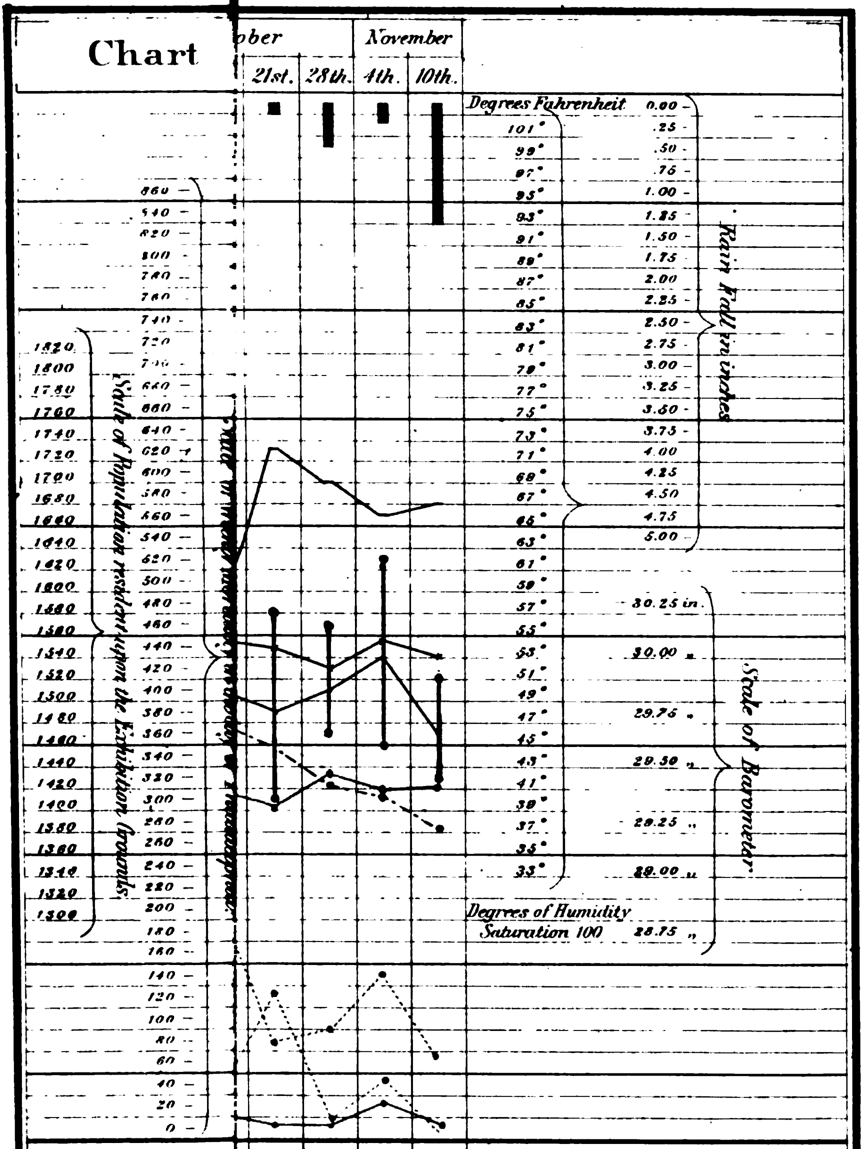
In calculating the rate of mortality in Philadelphia during the past twenty weeks, the population has been estimated at 900,000. Those who have carefully studied the movement of its population think, however, that in consequence of the large influx of visitors, this estimate is below rather than above the mean daily population. It must further be borne in mind that, while a considerable portion of its more favored classes were as usual absent from Philadelphia during the summer months, the lower classes, among whom the mortality is always greater at this season of the year, were largely reinforced. If in addition to this it is considered that a comparatively large amount of sickness might have been expected among the vast throngs of unacclimated visitors reaching the city after long and hurried journeys, and exposed to excitement and excessive fatigue, the full significance of the remarkable table above given will, it is hoped, be appreciated by all. As one of the most important factors in the maintenance of public health is the purity of the water supply, it is with great satisfaction that we learn from the official report furnished by Dr. Charles M. Cresson, the distinguished analytical chemist, that the purity of the water supplied from the Schuylkill River to the Exhibition grounds and the neighborhood is fully up to the standard of the past four years.

As the summer months, during which time alone any fears could be entertained for the development of widespread disease, have passed with such gratifying results, it is not premature to express the feeling of thankfulness and congratulation that during this important year Philadelphia has been favored with the same exceptionally low rate of mortality she has so long enjoyed.

WILLIAM PEPPER, M.D., *Medical Director.*

September 26, 1876.

Illustrating the We the Number of Cases of Debility each Week among Residents
upon the Exhibition riod furnished by the U.S. Signal Office



Total Weekly R	.15in	.61in	.22in	1.49in
Number of clea	4	1	5	2
Number of clou	3	6	2	5
Number of days wi	3	4	3	4
Number of days wi	4	3	4	2
Mean Thermome	48°	50°	53°	46°
Mean Baromete	30.04	29.95	30.07	30.01

n Temperature.

turation, 100.

▮ Weekly Rain Fall in inches.

January 1877.

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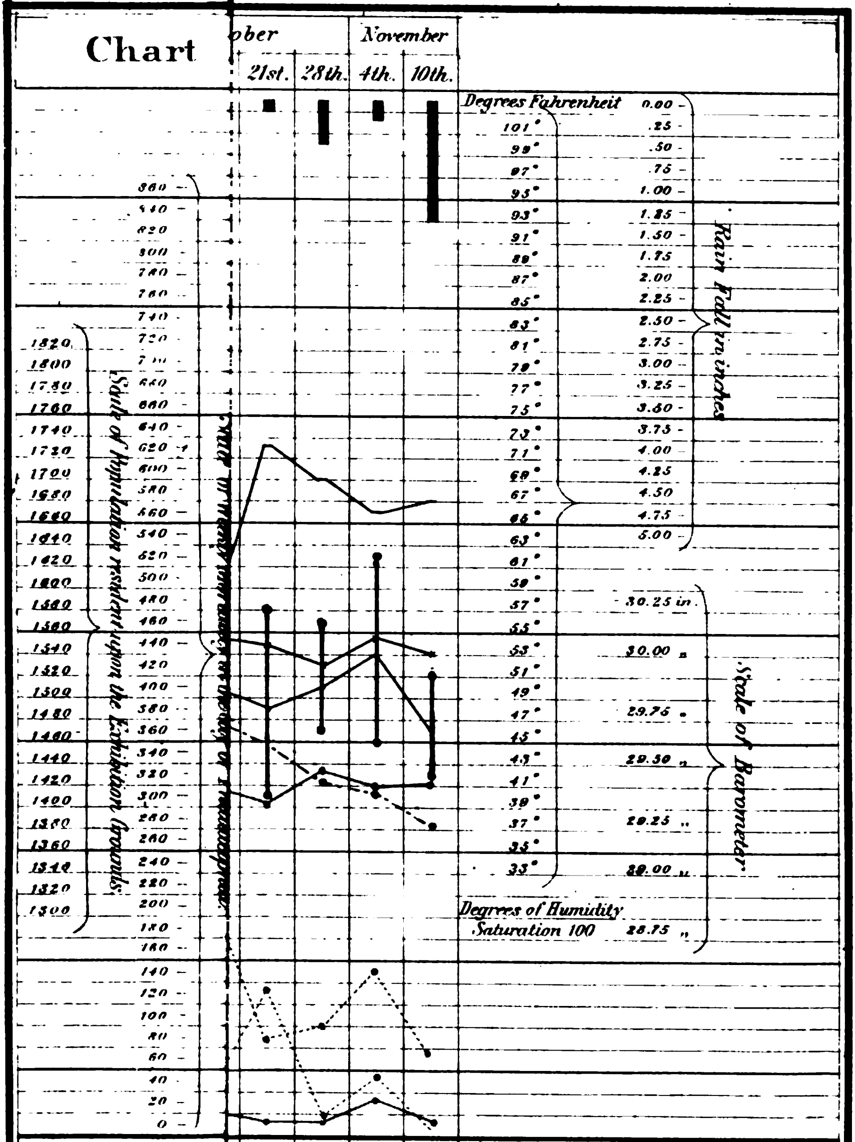

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January 1877.

H

PROTECTION.

DEPARTMENT OF PROTECTION.

Centennial Guard.

The Guard was under the command of the Director-General, as the representative of the United States Centennial Commission and executive officer of the Exhibition, with whom was associated Mr. Thomas Cochran, Chairman of the Committee on Grounds and Buildings of the Centennial Board of Finance, who had special charge and direction of the quarters, supplies, and pay-rolls of the Guard.

Orders and discipline.

Orders to the Guard were delivered through the Colonel-commanding, and were made to conform as nearly as possible to military forms and customs; the intention being to promote the efficiency of the organization by the observance of military discipline and usages. The men were required to drill daily, and were subjected to weekly inspections, to which was added frequent instruction in their duties.

Records.

A complete set of regimental books was kept, in which were recorded all the transactions of the department, including the orders of every character; statements of the recruiting of each man, and his connection with the Guard; and, in short, a full history of the organization in all its relations may be found in these records.

Colonel-Commanding

Mr. James Starr, of Philadelphia, was appointed Colonel of the Guard on March 1, 1876, and immediately inaugurated the necessary system for recruiting and organizing the force, a duty that he performed with zeal and ability. The system he proposed was adopted, and was in the main the plan of the organization to the close of its services. He resigned on the 3d of April, 1876, when he was succeeded by Henry de B. Clay, senior captain, who remained in command until July 31, 1876, when a leave of absence was granted him that he might accept an office of trust in the city of New York. On Colonel Clay devolved in great part the duty of selecting and disciplining the men, organizing the several companies, and establishing the police government of the Exhibition. His services were rendered with proficiency, good judgment, and executive skill, reflecting alike credit on himself and the administration. The Director-General, in the absence of Colonel Clay, assumed immediate direction of the Guard, assisted by the faithful and capable labors of Major William

Centennial Guard.

A. Hoyt, Adjutant and Quartermaster, until the organization was disbanded.

Qualifications or admission to the Guard.

The standard of qualifications required for admission to the Guard were: (1) age, 21 to 45; (2) height, not less than 5 feet 10 inches, which was afterwards reduced to admit those over 5 feet 8 inches; (3) citizenship of the United States; (4) ability to read and write; (5) good moral character, to be vouched for in writing by prominent citizens of the city, town, or county from which the application was made; (6) physical capacity to endure the duties. Each applicant was examined as to these qualifications by a board of officers constituted for the purpose.

Rules and regulations.

The rules and regulations for the government of the Centennial Guard were issued in a manual of convenient size, and each member was supplied with a copy, and required to familiarize himself with its contents before he was permitted to enter on his duties. The manual contained information and instructions in detail, and specifically on the following subjects, viz.: the organization of the Guard, discipline, duties of officers and patrolmen, rank and command, promotions, punishments, resignations and discharges, reports, arrests, laws of arrest, prisoners, fires, pay, property, responsibility for uniforms and accoutrements, drill, roll-call, orders and communications, lost children and lost property, tobacco, liquor, etc. They were especially instructed in their conduct to be quiet, respectful, and orderly, and with patience to courteously reply to all questions of visitors, and, when requested, to give directions and information to strangers.

Uniform.

The uniform consisted of a dark-blue dress-coat, with a single row of brass buttons; coat edged with red; double lappels on coat-tail, with red ornament; pantaloons of dark blue, with red stripe on side half an inch in width; uniform cap of the pattern formerly worn by the New York police, and fatigue-cap of the pattern known as the McClellan cap. The Guard was also equipped with police-clubs and belts.

Compensation.

The rate of pay was $2.00 per diem for patrolmen, one-sixth part being deducted from each monthly payment, which was paid to the man on his honorable discharge.

Accommodations.

In addition to the per diem compensation, the Guard, being required to remain constantly on the grounds, were provided with large and commodious barracks, erected expressly for the purpose, with proper ventilation and drainage, heated in cold weather, and furnished with bunks and proper bedding. They were fed in mess-houses in near proximity to the barracks, at an expense of 50 cents per diem for each man for three meals.

A detective force was also organized prior to the opening of the Exhibition, composed of experts selected from the large cities and centres of population of the country. This force performed most effective service, especially in recognizing and arresting on suspicion professional thieves, who were either imprisoned or driven from the city, thus preventing many depredations and robberies that might otherwise have been committed. As the Centennial Guard became more proficient and skilled in their duties, the detective force was from time to time reduced from twenty-five, its original number, until this branch of the service was finally intrusted to the Guard, assisted by policemen, detailed by his Honor the Mayor, from the regular police of Philadelphia; Captain W. R. Heins, of the city police, being placed in charge of the reorganized detective force.

Centennial Guard.

Detective force.

The administration of the Exhibition was greatly indebted to the municipal authorities of Philadelphia for timely and valuable assistance in every measure inaugurated in the interest of the enterprise, and more especially to his Honor William S. Stokley, Mayor, for his zealous and unremitting co-operation and counsel in the consideration of the plans adopted for the security of peace and good order within and about the Exhibition premises. He was in frequent consultation with the Director-General and the officers of the Centennial Board of Finance on this subject, and we are pleased to acknowledge his courtesy, the benefit of his large experience, and the wisdom of his recommendations.

Police of Philadelphia.

There were at all times harmonious action and a full understanding of the relative duties of the Guard and police, each being stimulated to earnest duty by a common object, viz.: the protection of life and property and the preservation of order, the securing of which would reflect credit and honor alike on the city and the government of the Exhibition.

Harmonious action of Guard and city police.

Appended to this report are abstracts from the interesting report of Captain William R. Heins to the Chief of Police of the City of Philadelphia, relating to the organization, duties, and services of the Centennial Division of the City Police.

Capt. Heins's report.

A station-house, with a complement of cells, was erected at Fifty-second Street and Elm Avenue within the Exhibition grounds, in which was included a court-room, with necessary and accessory rooms for the use of the Court and officers. The object of this arrangement was to provide a secure place for prisoners and the speedy trial of all parties arrested, as it frequently happened that they were strangers or not guilty of the charges alleged against them, and were, therefore, entitled to an early hearing.

Prison.

Centennial Guard.

Police magistrate.

Magistrate Thomas H. Clarke was assigned to duty at this Court by ordinance of the City Councils of Philadelphia. The hours for hearing cases were fixed at 9 o'clock A.M. and 4 o'clock P.M.

Disposition of persons arrested.

In many instances, offenders of the higher grade were committed to the Court of Quarter Sessions, tried, sentenced, and imprisoned within twenty-four hours after arrest. This speedy disposition of offenders no doubt had the effect of keeping many professional thieves and turbulent characters away from the city and the Exhibition; or, if they were present, of intimidating them from plying their unlawful vocations.

District Attorney.

To the Hon. Furman Sheppard, District Attorney, are due especial thanks for the efficient attention which he paid to the details of the policing of the Exhibition and to the protection of the property of exhibitors and visitors. He directed and provided for the speedy trial of thieves and offenders of every kind; and so effective were his arrangements that the demonstrated certainty of prompt punishment averted the crimes and disorders which, it was apprehended by many, must be incidental to so great an assemblage of persons and property.

Larcenies.

Considering the large exposure of property, and the unusual temptations presented to vicious persons, there were very few thefts committed in the Exhibition or near vicinity, and no successful robberies worth noting. This favorable result was, no doubt, due to the extraordinary precautions taken against such depredations.

The greater part of the larcenies occurred through visitors known as "Centennial souvenir kleptomaniacs," and, in some cases, by persons employed in and about the Exhibition. The articles taken, however, were of inconsiderable value.

Lost children.

The Headquarters Office of the Guard was designated as the place to which lost children and lost articles should be taken, and this regulation was rigidly enforced on all employees, and on visitors, so far as it was possible. There were no scenes more interesting in the Exhibition than the daily collection of lost or stray children, especially on the days when there were large numbers of admissions. The utter despair of the little ones and their uncontrollable grief appealed to the best sympathies of those in charge. The greatest care was bestowed on them, and in every instance they were restored to their parents or guardians, either at the headquarters or by the personal attendance of a Guard to their residences. This was a humane provision for which parents were grateful, and thus many homes were made happy by the speedy restoration of the children. A record was kept of the name of the child, time of its recovery, age (when it could be obtained), and name and receipt of the person to whom delivered.

Centennial Guard.

Lost adults.

The lost were not confined to children; many grown persons, strangers in the city, were often separated from their friends, wives from their husbands, husbands from their wives, daughters and sons from their parents, etc., and were directed or brought to the headquarters, where every assistance in their distress was extended to them. These cases were frequently amusing, but always enlisted the sympathy and protection of the officers in charge.

Lost property.

A great variety of lost property, mostly of articles of apparel and ornament, was found and stored awaiting claimants. Those not claimed were sold shortly after the close of the Exhibition, in accordance with the provisions of the laws of Pennsylvania.

Reduction of number of the Guard.

The quiet and good order that prevailed from the day of opening, and the friendly disposition of the visitors and all persons connected with the Exhibition as exhibitors or employees, made it evident that the large number of men originally recruited would not be required. Accordingly, the number of the Guard was systematically reduced from 1016 until, in August, there were less than 700 enrolled for duty; and as the attendance of visitors increased a less number of Guards were found necessary for police requirements,—a most gratifying result, and a pleasant commentary on the general deportment and intelligence of the American people.

Foreign Commissioners.

The administration of the Exhibition is indebted to the gentlemen of the foreign Commissions for their courteous co-operation in this department, and particularly for their valuable aid in maintaining the police regulations in their respective sections. While there may have been occasional annoyances resulting from the intrusions of inquiring persons, incidents inseparable from so large a concourse of curious people, we are pleased to record that there were so few causes for complaint, and that the general police regulations—the protection from theft and fire, and the decorum of the great assemblages of people—received the cordial praise of the foreign representatives.

To the officers and members of the Centennial Guard who were faithful in the discharge of their duties, which were always responsible and oftentimes of a delicate nature, the acknowledgments of the administration are due. Their contribution to the discipline and good order of the International Exhibition of 1876 will be kindly remembered by those who were intrusted with the direction of the Exhibition, and no less by the people of this country who respect law and order.

Statistics

The following tabulated statements give valuable and interesting

Centennial Guard.

information from the records relative to the organization and services of the Guard:

OFFICERS OF THE CENTENNIAL GUARD.

Name.	Rank.	Date of Appointment.	From what State.	Date of Resignation.	Remarks.
James Starr	Colonel	March 1, 1876.	Pennsylvania.	April 3, 1876	....
Henry de B. Clay	"	April 14, 1876.	Ohio	Nov. 11, 1876	From Captain C. G., April 14, 1876.
M. H. Alberger	Major	April 24, 1876.	Florida	Dec. 18, 1876	From Captain Co. A, April 24, 1876.
Wm. A. Hoyt	"	Aug. 1, 1876.	Pennsylvania.	Jan. 31, 1877	From Captain, Adjutant, and Quartermaster.
E. H. Butler, Jr.	"	" 1, 1876	"	Nov. 10, 1876	Volunteer Aid-de-Camp.
Henry de B. Clay	Captain	April 3, 1876.	Ohio	To Col., April 14, 1876.	....
M. H. Alberger	"	" 4, 1876.	Florida	To Major, April 24, 1876.	Co. A, First Precinct.
Wm. A. Hoyt	"	May 1, 1876.	Pennsylvania.	To Major, Aug. 1, 1876.	From Lieutenant, Adjutant, and Quartermaster.
George T. Hodges.	"	April 5, 1876.	Vermont	Dec. 18, 1876	Co. B, Sixth Precinct.
Henry E. Smith	"	" 24, 1876.	Pennsylvania.	" 18, 1876	Co. A, First Precinct.
Alfred C. Hawley	"	" 6, 1876.	Minnesota	June 30, 1876	Co. C, Front Fence Line.
T. H. Rich	"	" 6, 1876.	New Jersey	" 30, 1876	Co. G, Fourth Precinct.
P. H. Allabach	"	" 24, 1876.	Dis. of Colum.	Dec. 18, 1876	Co. E, Third Precinct.
Charles Snyder	"	" 24, 1876.	Pennsylvania.	" 18, 1876	Co. F, Second Precinct.
L. L. Mulford	"	May 3, 1876.	New Jersey	" 18, 1876	Co. D, Fifth Precinct.
Charles H. Jones	"	" 8, 1876.	Pennsylvania.	" 11, 1876	Judge Advocate.
Wm. A. Hoyt	Lieut.	April 14, 1876.	"	To Capt., May 1, 1876.	Adjutant and Quartermaster.
Manuel Saunders	"	" 14, 1876.	"	Nov. 30, 1876	Cos. C, E, and F.
John W. Bennett	"	" 14, 1876.	England	Dec. 18, 1876	Cos. E and F.
Aug. Riedt	"	" 14, 1876.	Germany	Oct. 31, 1876	Co. B.
E. F. Wenckebach.	"	" 26, 1876.	"	Dec. 18, 1876	Co. D.
B. McKenna	"	" 24, 1876.	Arkansas	June 23, 1876	Co. G.
Henry Duncan	"	May 3, 1876.	Pennsylvania.	Oct. 12, 1876	Co. A.
E. F. Wyman	"	" 3, 1876.	Maine	July 31, 1876	Co. B.
J. A. McCahan	"	" 3, 1876.	Pennsylvania.	" 20, 1876	Cos. A and G.
C. G. Van Reypen.	"	" 3, 1876.	New Jersey	June 30, 1876	Co. F.

OFFICERS OF DETECTIVE SQUAD, CENTENNIAL GUARD.

Name.	Rank.	From what State.	Date of Appointment.	Date of Resignation.
James M. Tilley	Captain	New York	May 15, 1876	August 22, 1876.
William R. Heins	"	Pennsylvania	August 22, 1876	November 30, 1876.

PLACE OF BIRTH AND RESIDENCES OF THE MEN OF THE CENTENNIAL GUARD, FROM DATE OF ORGANIZATION UP TO NOVEMBER 10, 1876.

	Place of Birth.	Residence as claimed at Time of Appointment.
Alabama	0	1
Arkansas	0	1
California	0	2
Connecticut	17	16
Delaware	13	7
District of Columbia	7	22
Florida	2	4
Georgia	3	0
Illinois	8	10
Indiana	3	2
Iowa	2	2
Kansas	0	1
Kentucky	5	1
Louisiana	1	3

	Place of Birth.	Residence as claimed at Time of Appointment.
Maine	14	6
Maryland	31	11
Massachusetts	21	20
Michigan	6	5
Minnesota	0	4
Mississippi	2	0
Missouri	5	2
Nebraska	0	1
New Hampshire	8	2
New Jersey	95	90
New York	212	190
North Carolina	1	1
Ohio	26	7
Pennsylvania	583	971
Rhode Island	9	1
South Carolina	4	0
Tennessee	2	1
Texas	1	2
Vermont	6	1
Virginia	21	17
West Virginia	2	3
Wisconsin	2	1
Canada	9	0

	Place of Birth.	Residence as claimed at Time of Appointment.	Centennial Guard.
England	36	1	
Ireland	156	0	
Scotland	13	0	
Wales	3	0	
Netherlands	1	0	
Shetland Islands	1	0	
Germany	47	0	
Russia	5	0	
Greece	1	0	
Holland	3	0	
Switzerland	4	0	
France	2	0	
Italy	1	0	
India	2	0	
Belgium	1	0	
Hungary	2	0	
Austria	4	0	
Denmark	3	0	
Sweden	3	0	
Total	1409	1409	
Americans	1112	1408	
Foreigners	297	1	

OCCUPATIONS OF THE MEN OF THE CENTENNIAL GUARD ENLISTED FROM ITS ORGANIZATION UP TO NOVEMBER 10, 1876.

Total number of enlistments 1409

Occupation.	No.
Agents	8
Artists	2
Auctioneers	2
Baggage-master	1
Bakers	6
Barbers	7
Blacksmiths	19
Boatman	1
Boiler-makers	10
Bolt-maker	1
Book-binders	13
Book-keepers	21
Boot-fitters	4
Brakemen	2
Brass-finisher	1
Bricklayers	14
Brick-makers	9
Builders	7
Butchers	20
Cabinet-makers	7
Calico printer	1
Carpenters	72
Carriage-makers	2
Carriage-trimmer	1
Carvers	6
Cigar-makers	13
Civil engineers	2
Clerks	109
Cloth-cutter	1
Coachmen	3
Collectors	8
Comb-maker	1
Compounder	1
Conductors	27
Confectioners	5
Constables	2
Contractors	2
Coopers	9
Cotton-finishers	2
Curriers	9
Custom-house inspector	1
Dentist	1

Centennial Guard.

Occupation.	No.
Designers	2
Detectives	4
Drillers	2
Drivers	17
Druggists	19
Dry-good dealers	3
Dyers	9
Edge-tool makers	2
Electro-plater	1
Engineers	26
Farmers	63
Filer	1
Finishers	3
Firemen	26
Foreman	1
Gardeners	9
Gas-fitter	1
Gas-worker	1
Gentleman	1
Gilt-frame maker	1
Glass-blower	1
Gold-beater	1
Grocers	6
Hammerman	1
Harness-makers	8
Hatters	16
Heaters	8
Horse-shoers	3
Hostlers	5
Hotel-keepers	12
Interpreters	2
Iron-maker	1
Janitor	1
Jewelers	3
Journalists	5
Justices of the peace	2
Laborers	97
Lawyers	6
Leather-cutter	1
Linen draper	1
Loom boss	1
Lumbermen	5
Machinists	73
Manufacturers	3
Merchants	23
Millers	7
Miners	2
Morocco-finishers	2
Moulders	35
Music-teachers	4
Musicians	2
Nail-feeder	1
Oil-cloth manufacturer	1
Operators	2
Overseers	2
Painters	32
Paper-hangers	2
Paper-makers	2
Pattern-maker	1
Pavior	1
Physicians	6
Picture-frame maker	1
Planter	1
Plasterers	26
Plow-maker	1
Plumbers	8
Policemen	31
Porters	8
Pressman	1
Printers	8
Prison-keeper	1
Produce-dealers	4
Publisher	1
Puddlers	15
Pump-maker	1
Railroaders	15
Reporter	1
Riggers	5
Roller	1
Roofers	3
Saddlers	2
Sail-makers	4
Salesmen	16
Saloon-keeper	1
School-teachers	12
Scythe-maker	1
Seamen	20
Sheet-iron makers	9
Ship-builders	9
Ship-carpenters	4
Ship-joiners	3
Shoe business	2
Shoe-cutters	3
Shoemakers	20
Silversmiths	6
Snuff-packer	1
Soldiers	28
Spinners	2
Spoke-turner	1
Steam-fitters	4
Stock-dealer	1
Stone-cutters	15

Centennial Guard.

Occupation.	No.
Stone-masons	11
Store-keepers	10
Students	2
Superintendent	1
Supervisor	1
Surveyors	3
Tailor	1
Tanner	1
Teamsters	10
Telegraph-operator	1
Tinsmiths	8
Tobacconists	3
Tobacco-strippers	3
Trunk-makers	2
Turners	2
Upholsterers	5
Varnishers	4
Watch-makers	7
Weavers	16
Welders	2
Wheelwrights	3
Wood-turners	4
Wool-grader	1
Grand total	1409

AGES OF THE MEN OF THE CENTENNIAL GUARD ENLISTED FROM ITS ORGANIZATION UP TO NOVEMBER 10, 1876.

Total number of enlistments	1409
Number of men enlisted aged from 21 to 30	584
" " " " 30 to 40	622
" " " " 40 to 50	187
" " " " 50 and upwards	16
	1409

NUMBER OF ARRESTS MADE BY THE CENTENNIAL GUARD.

Total number of arrests 675

Nature of Complaint.	No.
Larceny	160
Discharging fire-arms	1
Suspicious characters	24
Attempt larceny from person	12
Opening letters	1
Cruelty to animals	2
Intoxication	72
False pretences	1
Breaking into inclosure of Centennial grounds	1
Resisting officers	18
Attempting to obtain admission to grounds under false pretences	6
Assault	17
Jumping fence of Exhibition grounds	52
Taking money from visitors for showing a patent swing	1
Selling "bonbons"	1
Fast driving in Exhibition grounds	2
Insanity	2
Committing nuisance	2
Selling goods without concessions	22
Indecent exposure and drunkenness	7
Obtaining money under false pretences	2
Drunk and disorderly	15
Drunkenness and carrying concealed deadly weapons	5
Disorderly conduct	19
Malicious mischief	7
Breach of the peace	41
Personating an officer	3
Assault and battery	40
Receiving and selling passes under false pretences	1
Fornication and bastardy	1
Embezzlement	8
Vagrancy	6
Assault with intent to kill	1
Assault and battery with intent to kill	5
Picking pockets, assault and battery, and resisting an officer	4
Passing counterfeit money	10
Attempt at highway robbery	1
Violation of city ordinance	8
Fraud	1
Picking pockets	2

Centennial Guard.

Nature of Complaint.	No.
Concealing stolen property	1
Committing nuisance	7
Trespassing	14
Refusing to show authority for removing goods from Agricultural Hall	1
Leaning against pictures in Photograph Gallery	1
Petty larceny	14
Breaking fence of Exhibition grounds	1
Carrying concealed deadly weapons and having property of Department of Admissions in his possession	1
Attempt at larceny	2
Larceny and carrying concealed weapons	4
Running railroad trains in violation of orders	1
Using threatening language	7
Attempting to pick pockets	14
Attempt to pick pockets and carrying concealed deadly weapons	2
False representations	1
Drunkenness and vagrancy	5
Larceny from person	15
Grand total	675

REMARKS.—Held to bail	388
Convicted and sentenced	166
Acquitted	106
Bills ignored by Grand Jury	109
Pending action of Court of Quarter Sessions	7
Total	388

GENERAL SUMMARY.

1876.	Average Daily Number of Admissions.	Average Daily Number of Centennial Guard on Duty.	Number of Arrests Monthly by Centennial Guard.	Average Daily Number of Arrests.	Number of Lost Children Monthly.
May 31	36,049	1,016	31	2	8
June 30	38,570	920	83	3	38
July 31	34,863	799	85	3	23
August 31	43,530	698	76	2	66
September 30	93,834	716	148	5	168
October 31	102,458	683	181	6	118
November 10	115,316	617	71	7	83
Total	....	....	675	....	504

REMARKS.—The greatest number of men on the Guard on any one day was 1036, May 20; lowest number 592, on November 10. The 504 lost children were restored to their parents or guardians the day or evening on which they were lost on the grounds with but 5 exceptions; these latter were restored on the day following. The greatest number of lost children on any one day was 58, on September 28, "Pennsylvania Day."

W. A. HOYT, *Major and Adjutant Centennial Guard.*

CENTENNIAL DIVISION OF PHILADELPHIA CITY POLICE.

(**Extracts from the Report of Captain Wm. R. Heins, commanding.**)

PHILADELPHIA, PENNSYLVANIA, November 11, 1876.

KENNARD H. JONES, *Chief of Police.*

SIR,—The following report of the operations of the Centennial Division of City Police is respectfully submitted: City Police.

This force was created under authority of an ordinance of Councils, approved May 6, 1876.

The undersigned was detailed to take charge of a number of the officers appointed under the provisions of the ordinance referred to, and was assigned to duty with his command in the vicinity of the International Exhibition grounds.

A large majority of the men selected were experienced in police business, and but three days intervened between the approval of the ordinance and the day fixed for the opening of the Exhibition on the 10th of May.

In that time a new division had to be created in a portion of the western suburbs of the city which was then comparatively unknown. Uniforms had also to be obtained, and the men selected for the service instructed in their duties as policemen.

The boundaries of the Division were as follows:

Commencing at the southwest corner of Fortieth Street and Elm Avenue, thence along Elm Avenue westwardly to Fifty-second Street, down Fifty-second Street to Lancaster Avenue, down Lancaster Avenue to the east side of Fortieth Street, up Fortieth Street to Girard Avenue, and down Girard Avenue to the western boundary of the Park, embracing an area of about three square miles.

It frequently became necessary during the continuance of the Exhibition to place all the officers of the Division on duty at the same time. By a division of the squads as formed, and a slight alteration of the hours for reporting, this was easily accomplished, without materially adding to the regular hours of duty allotted the men. On these occasions the sight of so many officers on duty on the streets elicited considerable favorable comment from strangers and others, and had also a restraining effect upon those whom it was designed to keep in check.

On the 23d day of May three hundred and one officers were on

City Police.

post, this being the highest number of men on duty at any time during the Exhibition. From this time until the close of the Exhibition the number of officers constantly decreased, caused by transfers to the different districts, by resignation, and by discharge.

The following table shows the actual decrease in the number of men:

The highest	number	on duty in	June	was	291
"	"	"	July	"	271
"	"	"	August	"	240
"	"	"	September	"	219
"	"	"	October	"	204
"	"	"	November	"	183

As they reported for duty, the officers were instructed to be watchful during crowds, prompt to give assistance, courteous and forbearing in their intercourse with citizens, to acquaint themselves with the lawful rate of hack-fares, the times of the arrival and departure of trains, the location of the different hotels and objects of interest in the Division and throughout the city, so that they could impart such information to those desiring it.

As it was expected that the criminal classes of the country would frequent the Exhibition grounds and vicinity, they were instructed to watch closely the movements of suspected parties; also to be firm and resolute in maintaining order, and to be prompt in arresting all violators of the law. They were required to enter in books provided for the purpose everything of importance which came under their notice while on duty, or which they might consider of interest, and report the same immediately to the Captain or Sergeants.

By order of the Mayor the men were posted on the line of the curb, for the reasons: first, that it made the officer prominent and more easily seen; second, it exempted him to a great extent from the risk of familiarity with the keepers and frequenters of the innumerable saloons on the outskirts of the Exhibition; third, it gradually accustomed them to the hot rays of the sun while on duty, during which time they necessarily abstained from eating and drinking. One of the results was a lessened liability to sunstroke during the period when there was a very large number of fatal cases among citizens generally. The officers of this Division were probably more exposed during the hot summer months than any other portion of the City Police, and yet but two cases of sunstroke occurred, both of which yielded readily to medical treatment. One of the officers affected had suffered from a previous attack.

The sergeants were required to enforce the instructions given to

City Police.

the men, to visit the officers on their posts to see that each one was in the proper discharge of his duty, and to promptly report any dereliction or conduct unbecoming an officer to the Captain; in short, to enforce rigid discipline among the men.

The main entrance to the Exhibition grounds was at Belmont and Elm Avenues. At this point the six passenger railway companies carrying visitors to the Exhibition made a stand for their cars, their tracks crossing each other. A large number of hackmen kept their carriages at the concourse near the main entrance, and thousands of vehicles daily passed and repassed the intersection of the two avenues. Immense crowds of persons gathered at this locality on their way to and from the grounds. In the evenings especially, near the hour for the closing of the Exhibition Buildings, the concourse was thronged with people waiting to take the cars for the city. The services of a number of careful officers were required at this point, to insure the safety of the persons and property of visitors. It was their duty, under most difficult circumstances, to keep the crossing clear of cars and other vehicles, so as to afford a safe passage-way for pedestrians, to assist persons entangled among the throng of vehicles, and particularly ladies, children, and infirm persons, in crossing. They were instructed, when inquiries were made by strangers and others, to give correct information as to the proper mode of conveyance to their destination in the city; to exercise a supervision over the hackmen congregated here; to see that they complied with all the provisions of city ordinances relating to hackney-carriages, and particularly that legal rates of fare only were charged to those desiring to employ them. Not a single accident happened here, nor were any complaints made of the commission of thefts, or of the practice of extortion on the part of hackmen or others.

Officers were also detailed at the crossings at the eastern and central entrances to the Main Building, when large crowds gathered; their duties being similar to those performed by the officers at Belmont and Elm Avenues. One accident happened at the crossing at the eastern end of the Main Building, caused by a collision between two passenger railway-cars, by which a young man had his leg broken. The driver of one of the cars, who was drunk at the time and driving recklessly, was arrested, and the injured man taken to his home by the officers.

The Pennsylvania Railroad Company established a depot on Elm Avenue above Belmont Avenue, to which were conveyed passengers from all parts of the country, and also from stations within the city limits.

City Police.

Officers were stationed at the crossing from the depot to the Centennial grounds, whose duties were similar to those at the other crossings.

It became necessary to station a large number of officers daily within the depot. In the evenings the services of sixty men were sometimes required to protect from the operations of depredators the dense mass of people with which the building was packed, to preserve the peace, and prevent personal injuries as the crowds pressed forward to reach the cars.

Shortly after the Exhibition opened, it was found that a great many tramps, peddlers, and bootblacks had arrived from different sections of the country, and were infesting various parts of the Division. They found sleeping quarters in the fields, in outhouses, in empty cars of the Pennsylvania Railroad Company, and in one instance in a cave. They became great pests and nuisances to the vicinity during the daytime. Many of them were arrested for obstructing the highway, and for other causes. Squads of officers in charge of sergeants were sent to the haunts of the vagrants at night, with orders to arrest all who might be found. About two hundred persons of this class were arrested at different times and sent to the House of Correction.

The ordinances relating to hackney-carriages were rigidly enforced, and hackmen and others found violating any of the provisions of the same were arrested, as were persons who persisted in obstructing the sidewalks.

In many instances, intoxicated persons who were supposed to have money or other valuables in their possession were taken in charge by the officers, and detained until sober, when they were allowed to depart.

On the 22d of August a letter was received from Director-General Goshorn, notifying the undersigned that he had been appointed Captain of the Detective Force employed within the grounds, and requesting him to take charge of the force on the 23d inst. By direction of the Mayor, this request was complied with. The duties of this position were performed in addition to those already discharged as Captain in charge of the Division of Police, composed of the Centennial Division and the Sixteenth District.

The Detective Force of the Centennial authorities was reorganized on the 1st day of September, pursuant to instructions contained in the letter of appointment, and a material reduction made in the number of those connected with it. Thirteen men of the City Centennial Division were then selected for duty as special officers within the grounds. These officers were young men who had made themselves

City Police.

prominent by the efficient manner in which they had performed their police duties, and the number of detections and arrests made by them subsequently fully justified the opinion formed of their merits.

The following table shows the number of arrests made during the progress of the Exhibition by the City's Centennial Police Division:

May	144
June	215
July	278
August	327
September	491
October	410
November 10	96
Total	1961

Rather more than one-eighth of this number were of persons charged with the commission of felonies. They are classified as follows:

Charged with homicide	2
Burglary	2
Robbery	5
Larceny	233
Assault with intent to kill	2
Passing counterfeit money	4
Fugitives (escaped felons)	2
Receiving stolen goods	1
Total felonies	251

Of the total number of arrests made, one thousand seven hundred and ten were of persons charged with misdemeanors and minor offenses, and are classified as follows:

Assault and battery	65
Embezzlement	2
Carrying concealed deadly weapons	25
Gambling	6
Lottery selling	3
Issuing fraudulent licenses	3
Cheating by false pretences	11
Breach of ordinance	100
Vagrancy	200
Drunkenness, breach of peace, etc.	1295
Total	1710

By reference to the foregoing statements, it will be seen that comparatively few felonies of the higher grades were committed.

All persons arrested for burglary within the Division were convicted, and three of the five persons charged with robbery were also convicted, two remain untried.

City Police.

Of the two hundred and thirty-three arrests for larceny by the officers of this Division, one hundred and eighty were made outside the Exhibition grounds. Included in the latter number were twenty-eight arrests of pickpockets and two persons charged with stealing diamond pins from the shirt-bosoms of citizens. The remaining cases were thefts from employers, guests at hotels, money-drawers, entries, saloons, and the like.

The special officers before alluded to who were detailed for duty within the grounds arrested fifty-three persons for larceny during the two months preceding the close of the Exhibition. Twenty of these were pickpockets, the remaining thirty-three, both male and female, were persons detected in the act of stealing articles on exhibition, some of them of trifling value, from stands and cases in the several buildings. Nearly all of these were people in good circumstances, who had previously been considered highly respectable; some of them it was ascertained were quite wealthy, and others occupied responsible positions in the localities from whence they came.

All reports of police operations have shown that a very large percentage of the arrests are of persons charged with intoxication, and in that respect the one herewith submitted does not differ from those which have preceded it. It will be noticed that one thousand two hundred and ninety-five, being nearly two-thirds of the whole number, were of persons charged with this offense.

Stolen property to the value of nine thousand four hundred and twelve dollars and sixty cents was recovered and restored to the owners.

Twelve accidents occurred within the limits of the Division, occasioned by persons being struck or run over by railway-cars. Two of these caused the death of two persons. The others were not of a serious character. The injured persons were in all cases taken in charge by the officers and conveyed either to their homes or to hospitals.

Shortly after the organization of the force, the Mayor procured from the Fire Department a hose-carriage, with about five hundred and fifty feet of hose, to be used in case of fires in the neighborhood. The carriage was placed in a building adjoining the station on Girard Avenue.

To guard against incendiary fires, officers were detailed to patrol at night in the rear of the wooden buildings on Elm Avenue and in other localities.

Fifteen fires occurred within the Division, all accidental with one exception. Thirteen of these were extinguished by the officers without trouble or loss. The other two caused serious damage. The

City Police.

first of these broke out during the night of August 26, among a lot of empty packing-boxes stored under the sheds south of the Atlas Hotel, on Fifty-second Street. The boxes belonged to some of the foreign sections of the Exhibition, and were considered valuable. Loss, about eight thousand dollars. Fully insured. This fire was supposed to be the work of an incendiary.

About half-past four o'clock P.M., September 9, a fire originated in an oyster-saloon at the corner of Elm and Tischner Avenues, immediately facing the Main Exhibition Building. The fire spread rapidly among the wooden buildings along Elm Avenue eastwardly to a brick structure known as the Ross House, which was partly destroyed, and where its further progress in that direction was checked. From there it extended south to Columbia Avenue, and burned all the buildings west to the Trans-Continental Hotel, including the Star and New England Hotels; about twenty buildings in all being destroyed. The buildings and other property destroyed were valued at about seventy-five thousand dollars, upon which there were forty-three thousand seven hundred and seventy-two dollars insurance. The conduct of the officers on this occasion elicited universal commendation. Many of them risked their lives to stay the progress of the flames and to save property. A number were burned seriously about the face and hands and unfitted for duty for several days, while others had their clothing ruined.

In a few days afterwards twenty-seven wooden buildings were either removed by the owners or torn down by the officers of this Division, under the personal supervision of the Mayor.

The arrival of so many strangers at the Exhibition caused a great increase in the number of hotel and boarding-house runners. A registry of all persons engaged in this business was kept at the station-house, which contained nearly one thousand names. As a class, they soon became a source of great annoyance. They thronged the vicinity of the Pennsylvania depot, and the sidewalks of the various streets and avenues throughout the division, accosting and wearying visitors with their importunities. Complaints soon began to be made of attempts at extortion on their part and other misconduct. Summary measures were at once adopted with this class, and being rigorously enforced by the officers, they soon effectually checked the practices complained of.

At the station-house at Fifty-second Street and Elm Avenue a Court was established, and Magistrate Thomas H. Clarke was assigned for duty there by ordinance of Councils. The hours for the hearing of cases were fixed at nine o'clock A.M. and four o'clock P.M.

City Police. The cases of persons who were held for trial at the preliminary hearings in this Court were returned to the Court of Quarter Sessions the same day.

The District Attorney manifested great interest in these cases, and when possible gave them precedence over all others, thus relieving the officers who were witnesses and facilitating their return to duty.

In many instances prisoners were convicted and sentenced within a few hours of the commission of the crime for which they had been arrested. The promptitude and energy with which these cases were pushed forward to trial gave great encouragement to the officers, and had a salutary effect in deterring many persons from the commission of crime.

The immediate prosecution of these cases by the District Attorney often prevented the defeat of justice, which is sometimes caused by the absence of witnesses and prosecutors, when the latter happen to be non-residents of the city.

Towards the close of the Exhibition the Mayor directed that extraordinary exertions should be made to protect the Main Building, and in accordance with his suggestion the night force was strengthened by transfers of officers from the other squads. Fifty men were nightly placed along the fence surrounding the building, and this arrangement was continued until the disbandment of the force. Their orders were to search closely all vehicles passing in and out of the grounds, to examine bundles carried by persons leaving at the several gates, and to allow no one to approach the fence at late hours.

The officers were greatly stimulated and encouraged by the frequent visits made by the Mayor to the station-house on Girard Avenue, and by his almost daily presence in different parts of the Division, and their duties were discharged to a large extent under his own personal observation.

In conclusion, the undersigned cannot part with the men who served with him during the six months that marked the celebration of the nation's Centennial without bearing strong and earnest testimony to their efficiency.

With but few exceptions the officers were faithful in the discharge of their duties. Although often placed in positions which sorely tried their patience, they were uniformly polite and attentive in their intercourse with the many thousands with whom they came in contact daily.

Bewildered strangers, entirely lost in a great city, will not soon forget the obliging courtesy that was manifested in directing or accompanying them to their stopping-places.

The public peace was preserved throughout the Division, and the spectacle was frequently presented to visitors of the movements of hundreds of thousands of people without injury or turbulence. Property was carefully guarded from incendiaries and thieves, and when occasion required, the officers of the force did not hesitate to risk their own to save the lives of others. City Police.

The frequent commendation bestowed on the officers by the press and people throughout the country shows that their services were appreciated.

Forming the outer-guard of the grand Exhibition, they were brave, vigilant, and enduring. Always true to the trust reposed in them, the record of their acts will remain as a memorial of their fidelity, conferring distinction upon the officers and enhancing the reputation of our city.

Respectfully, WILLIAM R. HEINS,
Captain of Police.

FIRE.

CENTENNIAL FIRE DEPARTMENT.

International Exhibition.

—1876—

UNITED STATES CENTENNIAL COMMISSION.

Bureau of Administration,
FIRE DEPARTMENT.

Philadelphia, January 1, 1877.

HON. A. T. GOSHORN,
Director-General International Exhibition.

SIR,—I herewith present my report of the organization and conduct of my Department, with a list of fires and fire-alarms occurring during the term of its organization.

Very respectfully yours,
ATWOOD SMITH,
Director.

REPORT OF THE DIRECTOR

OF THE

CENTENNIAL FIRE DEPARTMENT.

Centennial Fire Department.

The subject of fire protection and insurance from loss by fire early received the attention of the Finance Committee.

During the month of January frequent interviews were held with representatives of the insurance companies, which resulted in a tariff of rates being fixed on January 31, 1875, dependent upon the organization of a fire department in accordance with the views of the companies.

By a resolution of the Finance Committee passed, and confirmed by the Director-General, February 3, 1876, a Director of the Centennial Fire Department was appointed.

The organization of the Department was commenced on February 5, 1876, by the appointment of 1 captain, 2 sergeants, and 40 men, which force was increased as required, and was fully organized and equipped by May 10, at which time the Department consisted of 1 captain, 2 lieutenants, 10 sergeants, 5 engineers, 4 drivers, 28 "picked" firemen detailed from the Philadelphia Fire Department, and 125 others, selected as firemen and patrolmen. Two engine-houses or stations were provided, one at the north entrance to Belmont Avenue, the second at the east entrance of the Avenue of the Republic.

Three patrol-stations were established in the Main Building, and one with the Headquarters of the Department at the east end of Machinery Hall. The force was distributed as follows: At Engine-House No. 1, 1 lieutenant, 19 firemen, 2 engineers, and 2 drivers, with 3 sergeants and 26 patrolmen, detailed for duty at the Agricultural Building and Annexes. At Engine-House No. 2, 1 lieutenant, 1 sergeant, 2 engineers, 1 driver, 14 firemen, and 12 patrolmen, the latter detailed for duty at the Memorial Building and the Art Annex.

Centennial Fire Department.

At the three stations in the Main Building there were detailed for duty 3 sergeants and 40 patrolmen.

At the Headquarters in Machinery Hall there were on duty 1 captain, 1 orderly, 3 sergeants, 2 engineers, and 36 patrolmen, detailed as follows:

In the Machinery Hall, 24 patrolmen. Shoe and Leather Building, 3 patrolmen. Saw-Mill Annex, 3 patrolmen. Boiler-House and Machine-Shop, 3 patrolmen. Headquarters, 1 aid to Director, 1 clerk to captain, 1 janitor, and 1 driver for the Director.

The apparatus in use consisted of 2 Silsby steam fire-engines, 1 hose-cart, with 700 feet of hose, 1 Champion four-wheel extinguisher, 1 Scott-Uda ladder, 1 hook-and-ladder truck, all in No. 1 engine-house. 2 Amoskeag steam fire-engines (one a "self-propeller"), 1 hose-reel, with 700 feet of hose, in Engine-House No. 2. 2 steam fire-engines, on exhibition in Machinery Hall, always ready for service, 1000 feet of hose on hose-cart and tenders, 1 four-wheel Champion extinguisher, 1 Skinner ladder, and 1 Babcock extinguisher, afterwards sent to the Cattle Sheds. 1 three-wheel Champion extinguisher at Main Building, 1 at the Agricultural Building, and 1 at the Art Annex. Other hose-reels were distributed at such points as were found requisite. 77 sub-way plugs, with 50 feet of hose attached at each, were always ready for use in the Main Building. 49 sub-way plugs in the Machinery Building, with hose on reels for use; 18 in the Agricultural Building, provided with 50 feet of hose to each. 8 sub-way plugs in the Annex to the Agricultural Building; 4 in the Annex to the Art Gallery; 3 in the Shoe and Leather Building; all with hose attached. Hose was also provided for the Saw-Mill.

The water-supply, previous to the completion of the Worthington pumps, was obtained from the city reservoir at Belmont by attachments to the 20-inch main on Belmont Avenue, which gave an ample supply for the Main and Machinery Buildings, with a separate 6-inch main for the use of the Agricultural Building. The average pressure on the plugs for fire purposes after the completion of the Worthington pumps was thirty-five pounds, being sufficient to throw streams on the roofs of the principal buildings within the grounds without the aid of steam.

Previous to the organization of the Centennial Fire Department, the American District Telegraph Company had in use a number of chemical fire-extinguishers, and had erected alarm-boxes in and around the various buildings; these last were utilized by the Fire Department until the month of July, when, the Gamewell Fire Telegraph having been completed, 10 alarm-boxes were put up for the use of the De-

Centennial Fire Department.

partment. The system adopted by the Department was that of prevention, quite as much as the extinguishment, of fires, and so thoroughly were the buildings and grounds within the inclosure patroled that but one fire was allowed to obtain any headway. A failure to notify the Pump-House of this fire promptly, caused an insufficient supply of water until some time after the arrival of the Department at the fire.

The Department was called upon 36 times to extinguish fires, including 5 times outside the grounds.

The steam fire-engines were in service at 9 fires; the chemical engines 8 times. Other fires were extinguished by hand-extinguishers, of which there were 110 in use by the Department.

The only fire entailing any serious loss was at Lauber's Restaurant, on the night of October 5, at 6 o'clock 40 minutes, for which no alarm was sent until after all the apparatus had arrived at the fire. The large Worthington pump not being in service on the first arrival of the steamers, it was some time before a sufficient supply of water could be obtained to control the fire.

The discipline and attention to duty on the part of the members were uniformly good. Comparatively few men were discharged, and those mostly for failing to report at roll-call.

The greatest number of men absent from sickness at any one time was 12; the average number 6. There was 1 death in the Department, 1 incapacitated from fever, and 1 from paralysis.

No member of the Department was put under arrest at any time, and the frequent calls upon them for services outside of their regular line of duty were always responded to with alacrity and good judgment.

LIST OF FIRES AND FIRE-ALARMS.

March 13. At north centre of Agricultural Hall, 4.30 P.M.; extinguished by four hand-extinguishers and one large Champion extinguisher. Cause, sparks from tinman's fire.

April 12. At south centre of Agricultural Hall, 9.30 A.M.; put out with two Champion fire-extinguishers. Cause, upsetting of tinman's fire-buckets.

April 16. In building where the Model of Paris was being constructed, 3 P.M.; hose-cart in service, but not needed. Cause, upsetting of glue-pot upon the stove.

April 19. At Machinery Hall, 11.55 A.M.; hose on hand and water in it, but fire extinguished by one of the employees. Cause, upsetting of steam hoisting-cranes.

April 19. At Joshua Harvey's barn, Fifty-second Street and Pennsylvania railroad, 11 P.M.; alarm by watchman of Atlas Hotel, and extinguished by the Centennial and city fire companies. Cause, spontaneous combustion of damp hay.

May 4. In Main Building, 8 P.M.; one Champion hand-extinguisher used. Cause, spontaneous combustion of waste oil rags.

May 6. Near Belmont Avenue and Avenue of the Republic, 12 M.; several of the apparatus out, but not in service.

May 6. In Main Building, 7.15 P.M.; extinguished by two employees, aided by one Champion fire-extinguisher. Cause, combustion (mixture) of chemicals.

May 10. Near southeast corner of Main Building, 12.40 P.M.; extinguished by firemen from Main Building. Cause, spontaneous combustion of rags, straw, waste, etc.

May 13. In Machinery Hall, 11.30 A.M.; extinguished by two patrolmen using Champion hand-extinguishers. Cause, negligence of plumbers in melting metal.

May 13. In Machinery Hall, 6.30 P.M.; extinguished by a patrolman. Cause, spontaneous combustion of oily rags.

May 27. At United States Lighthouse, in Government Building, 10.50 P.M.; extinguished by firemen, aided by large and small extinguishers. Cause, spontaneous combustion of oily rags, old clothing, etc.

June 8. In a steam-pump space, Machinery Hall, 9.30 P.M.; extinguished by five of the employees. Cause, spontaneous combustion of oily waste, which had been secreted.

June 9. Fire in workingman's clothing, 7 A.M. Cause, carrying lighted pipe in pocket.

June 14. At Lippincott's soda-stand, Belmont and Landsdowne Avenues, 11.45 A.M.; extinguished by firemen, aided by several chemical extinguishers. Cause, sparks from a locomotive on the Narrow-Gauge Railroad.

June 15. In restaurant, north centre Main Building, 6.45 P.M.; extinguished by two firemen. Cause, towels drying before a stove taking fire.

June 25. In Brazilian cotton exhibit, Agricultural Hall, 9.30 A.M.; extinguished by a number of firemen, aided by large and small extinguishers. Cause, ignition of a match upon the floor by being trod upon. Loss, about $700. This fire very nearly caused the loss of the Agricultural Building.

July 17. In Boiler-House No. 5, 12.30 A.M.; extinguished by one of the firemen. Cause, carelessness of employees in leaving boiler-furnaces in improper condition.

August 21. At cook-house attached to Company B Barracks, 6.15 P.M.; extinguished by the firemen and patrolmen. Cause, dropping of red-hot coals on the floor.

August 26. In box-sheds, rear of Atlas Hotel, 1.30 A.M.; all the apparatus and department in service. Cause, incendiarism.

September 9. At tobacco-stand, opposite Canadian lumber exhibit, 2.30 P.M.; extinguished by firemen with steam fire-engines and extinguishers. Cause, sparks from a locomotive.

September 9. Among buildings on Elm Avenue, opposite Main Building, 4.30 P.M.; extinguished by the Centennial Fire Department, aided by the city fire-engines. Cause, ignition of gasoline in gasoline stove.

September 14. At Southern Restaurant,—the awning,—1.30 P.M.; extinguished by firemen with steam-engines and extinguishers. Cause, sparks from a locomotive.

September 15. At Southern Restaurant,—the awning,—3.40 P.M.; extinguished by the waiters with a small extinguisher. Cause, sparks from a locomotive.

September 15. At Southern Restaurant,—the awning,—5.35 P.M.; extinguished by the waiters with a small extinguisher. Cause, sparks from a locomotive.

September 21. At Centennial Guards' South Barracks, 4.30 P.M.; extinguished by firemen with extinguishers. Cause, defect in construction of range.

September 28. At Pavilion, junction of Landsdowne Drive and Belmont Avenue, 9.40 P.M.; extinguished by firemen with steam fire-engines and extinguishers. Cause, leakage in gas-pipe.

October 2. At Glass Magazine,—the awning,—10.45 A.M.; extinguished by firemen with apparatus from Machinery Hall. Cause, sparks from a locomotive.

October 5. At Lauber's German Restaurant, 6.40 P.M.; extinguished by the Centennial Department using steam fire-engines. Cause, a woman's dress hanging on a gas-bracket in upper room of restaurant, and taking fire from gas-jet. Loss, about $23,000.

October 7. At Variety Show, Elm Avenue above Forty-second Street, 11.15 P.M.; ex-

Centennial Fire Department.

tinguished by employees of the show; Centennial apparatus out, but not needed. Cause, curtain taking fire from a lamp.

October 9. At Gillender's Glass-Works, 5.25 P.M.; extinguished by firemen with steam fire-engines and extinguishers. Cause, bursting of a glass-melting pot.

October 10. At Lafayette Restaurant, 5.50 P.M.; extinguished by firemen with steam fire-engines and extinguishers. Cause, chimney taking fire from range.

October 19. At Police Station F, George's Hill, 8 P.M.; extinguished by the firemen. Cause, sparks from fireworks.

November 26. Alarm from fire outside grounds, 9.40 P.M.; apparatus in service.

December 16. At Metropolitan Hotel, Forty-first Street below Elm Avenue, 10.45 A.M.; apparatus in service. Cause, unknown.

December 16. In Swedish Department, Main Building, under iron display, 2.40 P.M.; extinguished by hand-extinguishers. Cause, reported incendiarism.

The steam fire-engines were in service at 9 fires, the chemical engines 8 times,—other fires were put out by hand-extinguishers.

WATER-SUPPLY.

DEPARTMENT OF WATER-SUPPLY.

International Exhibition.

—1876—

UNITED STATES CENTENNIAL COMMISSION.

Philadelphia, December 31, 1876.

MR. JOHN WELSH,

President of the Centennial Board of Finance.

SIR,—Herewith I forward my report upon the Water-Supply at the International Exhibition.

Respectfully yours,

FREDERICK GRAFF,

Superintendent of Water-Supply.

REPORT OF THE SUPERINTENDENT

OF THE

DEPARTMENT OF WATER-SUPPLY.

Water-supply. The question of an adequate supply of water for the Centennial Exhibition early received the attention of the Board of Finance, since it was at the time a serious question whether the city works at Belmont would be able to meet the demand caused by an increase of the population of one hundred thousand persons or more, and also to supply the wants of the Exhibition; in fact, the Chief Engineer of the City Water Department had reported to Councils that, "if it was the intention of the city to furnish water for the Exhibition, immediate steps would have to be taken for the duplication of the buildings, pumping machinery, and mains of the Belmont works,—at an estimated cost of $862,840." To avoid the expenditure of so large a sum by the city, and to make the Exhibition be perfectly certain of an ample supply of water, your works were undertaken.

Learning your desire to construct the works, Mr. Henry R. Worthington, of New York, offered to furnish and erect the necessary pumping machinery for the elevation of the estimated quantity of water at his own cost, as an exhibit of the "Worthington patent duplex direct-acting pumping-engines." His offer was accepted; and the designing and constructing of the engine-house, stand-pipe, and the laying of the supply-mains, as well as the superintendence of the works during the Exhibition, were intrusted to me. Work was commenced at the stand-pipe foundation on June 18, 1875. The stand-pipe was raised into position August 26, 1875. The engine-house was finished, and all the large mains laid, by December 20, 1875. The erection of the engines and boilers was commenced March 10, 1876. The large engine was started May 4, 1876, and the small one four days later.

Water-supply.

The building, stand-pipe, engines, and boilers were made suitable as a permanent system of water-works for a city with a population of from forty to forty-five thousand inhabitants. The following is an abstract of their dimensions and capacity. The engine-house, situated on the banks of the Schuylkill River, near the Belmont steamboat-landing, and about a quarter of a mile below the Belmont water-works, is a neat building of brick, ornamented with sandstone dressings and colored bricks, and covered with a slate roof. It is 70 feet 6 inches long, 39 feet 6 inches wide, with side-walls 18 feet high; is divided into an engine-room 38 by 45 feet, and a boiler-room 23 by 38 feet; and a small tower on the east side of the building contains the offices and wash-room. The chimney-stack is 10 feet square at the ground-level, and 80 feet high, with a flue of 40 inches square. The water is conducted from the river through a line of cast-iron pipes 30 inches in diameter, and 75 feet in length, to the pump-well, which is 12 feet long and 6 feet wide, with a small well adjoining, 6 feet square, in which are placed wire screens provided in duplicate, so that one set may be hoisted out of the grooves in which they slide and be cleaned while the other set is in use. A large screen was also placed at the mouth of the inlet-pipe on the river. The inlet-pipe and bottom of the pump-well were placed so low as to insure a full supply, even should the water in the river fall much lower than has ever been known. The mouth of the inlet is also so far below the surface of the water at its lowest stage as to prevent leaves and other floating matter from entering the inlet-pipe. By this means, and by careful attention to the screens, all objectionable substances were kept out of the pump-well. The grounds immediately around the building are neatly laid out, sodded, planted with flowers, provided with asphaltum walks, and inclosed with a rustic fence.

The machinery placed in the house, entirely at Mr. Worthington's own cost, was as follows: one compound double-cylinder expanding and condensing duplex-engine, with steam-jackets and balanced slide-valves, with two high-pressure cylinders 29 inches in diameter, two low-pressure cylinders 50¼ inches diameter, all 50 inches length of stroke. The pump-plungers are two, of 22¼ inches diameter each, and 50 inches stroke. The pumping capacity of this engine, when driven at reasonable speed, is 4166 United States gallons per minute, or 6,000,000 gallons per twenty-four hours. The auxiliary engine is non-condensing, has two steam-cylinders 20 inches in diameter, two pump-plungers 12 inches in diameter, all of 18 inches stroke, and is capable of raising 1,000,000 United States gallons per twenty-four hours. The boilers are two return tubular, each 6 feet 6 inches in

Water-supply.

diameter, and 18 feet long, with ninety-six tubes 4 inches in diameter in each; they contain together 4052 square feet of heating surface; and are so connected as to be used independently of each other. A small independent duplex feed-pump is provided, so arranged as to feed either warm or cold water into one or both the boilers.

All the machinery is in every particular first-class, and, as regards materials, workmanship, strength of parts, and efficiency, compares favorably with any water-works engines in the United States.

This is mainly due to the very limited amount of material in motion when they are running, thus obviating the danger of unrestrained momentum, also to the arrangement whereby the current of water is prevented from coming almost to rest at the end of the stroke, as is the case in Cornish and fly-wheel engines. This is effected by the pump-plunger of the one engine commencing its action a little before the stroke of the other terminates. They are, besides, so contrived as to allow a suspension of motion for such a length of time as may be required to allow the pump-valves to seat themselves fully in a quiescent manner without being driven to their seats by the recoil of the current at the end of the stroke, as is the case with all fly-wheel engines. These effects combined produce noiseless action and total freedom from shocks, and of necessity a durable machine. Whether used in connection with a reservoir or a stand-pipe, or by direct pressure into the distributing pipes of a city, the absence from hurtful momentum or concussions, inseparable from all other forms of pumping engines, gives them pre-eminence.

No more important testimony as to their trustworthiness could be cited than the performance of the engines at the Centennial Exhibition, where for one hundred and eighty-five consecutive days, with no other storage than a stand-pipe 120 feet high and 4 feet in diameter, they furnished a supply which was not interrupted or even made doubtful for a moment; no mishap or inconvenient stoppage occurred throughout this long and important service. From the character of the supply and the want of sufficient storage capacity, no special effort was or could be made to show remarkable economy of running expenses, yet the record will be found satisfactory in that particular.

For the months of August, September, and October the average cost of pumping 1,000,000 gallons one foot high (the night-service being performed by the non-condensing engine) was $7\frac{70}{100}$ cents. The cost for the day-service when the large condensing engine was used was, for the months named, at an average of $5\frac{65}{100}$ cents per 1,000,000 gallons raised one foot high.

That a comparison may be formed, the following statement of cost

Water-supply

for similar duty, taken from the annual report of the Chief Engineer of the Water Department of Philadelphia for the year 1875, is given:

At the Schuylkill works $17\frac{5}{100}$ cents, where one compound fly-wheel and two Cornish engines are used.

At the Delaware works $12\frac{98}{100}$ cents, where one Worthington duplex-engine and two fly-wheel engines are used.

At the Roxborough works $10\frac{80}{100}$ cents, where one Cornish and one Worthington engine are used.

At the Belmont works $7\frac{84}{100}$ cents, where three Worthington engines are in use.

The average price of coal at the respective works named was, at the Schuylkill works, $4.92 per ton; at the Delaware works, $4.95; at the Belmont works, $5.10; at the Roxborough works, $5.35. The cost of that used at the Centennial works is taken at $5.20 per ton. The amount of coal given in the annexed table is the total quantity consumed for banking fires at night and raising steam, without any deduction for ashes or clinker.

The engines were provided with a water-pressure gauge and one of Edson's recording gauges; these were carefully noted, and during the day-time and hours of exhibition the water in the stand-pipe was never allowed to stand at a less height than 200 feet above the level of the water in the Schuylkill. By the Worthington engine this can readily be accomplished, as the engine itself increases or diminishes its speed as the demand upon it is varied by the changing rate at which water is required.

From the pump used at the Exhibition grounds an ascending main 18 inches in diameter and 958 feet long conducts the water to the stand-pipe. The stand-pipe is of wrought-iron, and is made up of 2 sheets in height $\frac{7}{16}$ inch thick, 3 sheets $\frac{3}{8}$ inch, 4 sheets $\frac{5}{16}$ inch, 8 sheets No. 2 wire gauge, 13 sheets $\frac{1}{4}$ inch thick, all of 4 feet internal diameter,—making a total height of 120 feet, upon which is an ornamental finial 13 feet in height. The total weight of iron is 26,448 pounds. The pipe was constructed and erected by the contractor, Mr. Jacob Naylor, of the People's Works. For a height of 25 feet above the surface of the ground it is supported by masonry of octagonal form, faced with green serpentine, and with mouldings and dressings of Ohio sandstone.

From the stand-pipe a main of 16 inches diameter extends to a point near the northwest corner of the Main Building on Belmont Avenue, where it is reduced to 12 inches, and extends across the whole western end of the Main Building. Thence there are three lines of pipe, passing the whole length of each of the large buildings.

Water-supply. One line of pipe extends from the centre line, which passes through Machinery Hall westward as far as the Glass Works, then crosses the grounds to State Avenue, and runs along this across Belmont Avenue to the Agricultural and Horticultural Halls. Most of this line is of 6 inches diameter, the rest of 4 and 3 inches.

A line of 10-inch pipe extends from the 16-inch main to the centre of the Lake, for the supply of the large fountain there; this fountain consists of three concentric rings of 6-inch pipe, supported by brick arches and rock-work,—one ring of 12 feet diameter, with 19 jets of half-inch diameter, throwing the water vertically; one ring of 30 feet diameter, with 38 jets of three-eighths inch diameter, throwing the water inward at an angle of eighty-five degrees; one ring of 50 feet diameter, with 78 jets of three-eighths inch diameter, throwing the water inward at an angle of thirty-five degrees; and 1 jet in the centre of three-fourths inch diameter. Over one million gallons per day was frequently passed through this fountain. Besides its ornamental character, it was useful to keep the Lake properly filled, and to produce a pleasing and valuable stream through Landsdowne Valley. It also supplied some 500,000 to 600,000 gallons daily, during the hours of exhibition, to the condensing apparatus of the Corliss engine, a 10-inch pipe being carried from the centre of the Lake to the condenser of the engine.

The number of appliances for using water in the buildings and grounds was as follows:

303 Fire-hydrants
924 Water-closets.
372 Urinals.
18 Wash-paves for watering Horticultural Garden.
601 Wash-basins.
32 Ordinary hydrants.
95 Sinks.
31 Baths.
35 Fountains (17 of large size).

All the steam-boilers supplying engines in Machinery Hall, the United States Government Building, Agricultural Hall, Brewers' Buildings, saw-mills, etc.; the locomotives of the Narrow-gauge Railway; the motors for blowing the organs in the Main Building; the tank in the Pump Annex of the Machinery Building; the depot of the Reading Railroad outside the grounds.

The fire-plugs were freely used for sprinkling the roads within the grounds, as well as the Park drives outside the inclosure as far as Sweet Brier Mansion.

When the Philadelphia city authorities, fearing the supply from Belmont works would be inadequate to the wants of the wards west of the Schuylkill, forbade the carts engaged in sprinkling Elm Avenue and adjoining streets to use the city fire-plugs, this service was performed by a full supply furnished from the Exhibition works, for a

Water-supply.

period extending from about July 12 until nearly the close of the Exhibition.

The following is a summary of the length and size of the pipes used in distributing the water through the Exhibition buildings and grounds, exclusive of pipes used in plumbing or otherwise in restaurants, State buildings, police barracks, etc.:

½ inch diameter wrought-iron pipe	416 feet	
¾ " " " "	1,194 "	
1 " " " "	1,157 "	
1¼ " " " "	348 "	
1½ " " " "	146 "	
2 " " " "	931 "	
Total wrought-iron pipe		4,192 feet.
2 inch diameter cast-iron pipe	375 feet	
3 " " " "	6,680 "	
4 " " " "	18,072 "	
6 " " " "	26,987 "	
8 " " " "	3,280 "	
10 " " " "	2,347 "	
12 " " " "	480 "	
16 " " " "	1,340 "	
18 " " " "	958 "	
Total cast-iron pipe		60,519 feet.
Grand total		64,711 "

This is 31 feet more than 12¼ miles. Included in this are 4200 feet of 6-inch, and 1700 feet of 4-inch pipe laid by the Fairmount Park Commission previously to the opening of the Exhibition, but connected with the distributing pipes of the Exhibition.

From May 10 to July 11 the works belonging to the Exhibition supplied the water during the day only; and at night the stops connecting the mains on the Exhibition grounds with those of the city were opened, and the supply was furnished from Belmont Reservoir. Upon the 11th of July all these stops were securely closed, and the entire water-supply after that time, both day and night, was furnished by the Exhibition works, the large engine being run during the daytime and the auxiliary engine during the night. The night-service required the use of but one boiler, but the fire in the other was kept banked, so that in case of conflagration both could be put in use in a few minutes and the large engine be started.

The working of the engines during the time the Exhibition was open is stated in detail in the following tabulated statement. The engines, as hereafter stated, were run until December 31, 1876, or 51 days after the closing of the Exhibition. The figures are the totals

Water-supply. for the whole time run, from May 10 to December 31, 1876, both included:

The large engine ran	2,426	hours on 227 days.
The small engine ran	2,319¾	" " 182 nights.
The large engine made	5,297,696	strokes.
The small engine made	10,929,620	"
The large engine raised	428,713,276	United States gallons.
The small engine raised	70,605,344	" " "
Together they raised	499,318,620	" " "
Daily average for 227 days of	2,199,641	gallons.
The large engine consumed	1,322,334	pounds of coal.
The small engine consumed	417,034	" " "
Together they consumed	1,739,368	" " "
Or, 776 tons 10 cwt. 0 qrs. 8 pounds.		

The maximum water-supply was during the month of October; the total supply for the month being 77,984,116 gallons, or an average of 2,515,616 gallons per twenty-four hours. This is equal to 56$\frac{9}{10}$ gallons for each inhabitant of the Twenty-fourth and Twenty-seventh Wards of Philadelphia, according to the census made by the police in the early part of the year, by which it appeared that these wards had then a population of 44,209 individuals. By running the large engine twenty-four hours, a maximum supply could have been given sufficient to have furnished 56$\frac{9}{10}$ gallons to each individual in a city having a population of 105,448. This will convey some idea of the magnitude and importance of the pumping-works, and will be more striking to visitors from Europe, where from 25 to 30 gallons per day per head is considered an ample supply.

By arrangement with Mr. Worthington his engines were to be run from the opening of the Exhibition until the 1st day of December, 1876. He not only performed this service, but, by request, allowed the use of his machinery without charge until December 31, 1876. The liberality of Mr. Worthington's action in furnishing the pumping-power free of cost may be better appreciated when it is remembered that his engines were necessarily placed outside the Exhibition grounds, and were difficult of access to visitors, so that the advantages of an exhibit could not be fully realized, as would have been the case if his work could have occupied a central position in the Pump Annex of Machinery Hall.

Water-supply.

EXHIBIT A.

WATER-PIPES IN EXHIBITION GROUNDS AND BUILDINGS.

SITUATION.	NUMBER OF FIRE-PLUGS.			LENGTH OF WROUGHT-IRON MAIN PIPE.						LENGTH OF CAST-IRON MAIN PIPE.									TOTAL LENGTH OF PIPE. FEET.
				DIAMETER.						DIAMETER.									
	FIRE-PLUGS IN BUILDINGS.	FIRE-PLUGS IN GROUNDS.	TOTAL FIRE-PLUGS.	½ *in.*	¾ *in.*	1 *in.*	1¼ *in.*	1½ *in.*	2 *in.*	2 *in.*	3 *in.*	4 *in.*	6 *in.*	8 *in.*	10 *in.*	12 *in.*	16 *in.*	18 *in.*	
Main Exhibition Building	77	36	113									5,840	5,554	940					12,334
" " " **Annex**		4	4								610	130							740
Machinery Hall	49	32	81									2,220	5,080	1550	325				9,175
Boiler-Houses, No. 1, No. 2, No. 3	1		1									450							450
Machine-Shop Annex, No. 2	1		1										270						270
Connecting Main and Machinery Buildings													1,000	500					1,500
United States Government Building	16	7	23								40	325	1,590	290	80				2,325
Memorial Hall	4	2	6						340		660	220							1,220
Annex to Art Gallery	2	4	6						40		370	310							720
Horticultural Hall	8	4	12						360		670								1,030
Across west end of Agricultural Hall															850				850
Agricultural Hall	18	14	32										3,550						3,550
Brewers' Building and leading to it	2	2	4								450		210						660
Shoe and Leather Building											620								620
Across west end of Main Building																480			480
From northwest corner Main Building to Stand-Pipe																	1340		1,340
From Stand-Pipe to Pumping-Engine																		958	958
State Avenue and other lines west of Belmont Avenue											2085	1,820	3,999						7,904
To Agricultural and Horticultural Halls **and east of Belmont Avenue**											1175	2,225	3,874						7,274
To large Fountain in Lake															1092				1,092
Rings composing Fountain												332	160						492
To supply Buildings belonging to Board of Finance, and for Wash-Paves				416	1194	1157	348	146	191	375									3,827
Pipes formerly laid by Park Commission supplied from our Works												4,200	1,700						5,900
Total	178	105	283	416	1194	1157	348	146	931	375	6680	18,072	26,987	3280	2347	480	1340	958	64,711

The total length of main pipe was thirty-one feet over twelve and a quarter miles.

Water-supply.

WORK OF ENGINES, AND WATER SUPPLIED.

DATE.	ENGINES. Number of Strokes. Engine No. 1.	Number of Strokes. Engine No. 2.	Number of Hours Run. Engine No. 1.	Number of Hours Run. Engine No. 2.	Number of Days Run.	Average Strokes per Minute. Engine No. 1.	Average Strokes per Minute. Engine No. 2.	Total Coal Consumed. Pounds. Engine No. 1.	Total Coal Consumed. Pounds. Engine No. 2.	Total Coal Consumed. Pounds. By both.	Coal Burned per Hour Run. Pounds. Engine No. 1.	Coal Burned per Hour Run. Pounds. Engine No. 2.	Ashes and Clinker. Pounds. By both.
May 10 to 31	321,552	10,280	130	1¾	19	41 22	97.9	113,896	…………	113,896	876.12	…………	25,239
June	542,096	…………	233¼	…………	26	38.64	…………	141,109	…………	141,109	603.67	…………	33,167
July	708,588	1,365,640	322¾	250	29	36.58	89.9	170,042	60,876	230,918	526.85	240.61	50,719
August	788,572	1,797,400	372	372	31	35 33	80.5	182,843	65,773	248,616	491.51	176.81	57,930
September	785,756	1,706,750	354½	379½	30	36.94	75	183,575	64,762	248,337	517.84	170.78	55,205
October	790,564	2,159,200	359	467	31	36.70	74	189,976	66,452	256,428	529	142.29	61,311
November 1 to 10	255,968	721,000	117	156½	10	36.46	76.74	51,642	24,316	75,958	441.38	155.33	19,878
Total	4,193,096	7,760,270	1,889	1,626¼	176	37.41 Average.	82.84 Average.	1,033,083	282,179	1,315,262	546.89 Average.	177.16 Average.	303,449 Average.

The supply was from the city mains at night until July 10. From that time the total supply was furnished from the Exhibition works, all the city stops being permanently closed on July 11.

The total amount of coal burned from May 10 to November 10 was 587 tons 3 cwt. 1 quarter 18 pounds. This quantity of coal is the total without any deduction for ashes or clinker, or for banking and raising steam.

The total time run by Engine No. 1 was 1889 hours, — 78.7 days,—pumping at the rate of 4,310,555 gallons per twenty-four hours. The total time run by Engine No. 2 was 1569¼ hours, — 65 days,—pumping at the rate of 766,534 gallons per day.

Water supply.

WORK OF ENGINES, AND WATER SUPPLIED.—*Continued.*

DATE.	WATER PUMPED.							CONSUMPTION OF ENGINES.					
	TOTAL NUMBER OF GALLONS OF WATER PUMPED PER MONTH.			AVERAGE NUMBER OF GALLONS PUMPED PER DAY WHEN THE ENGINES RAN.			HEAD IN FEET PUMPED.	TOTAL COAL PER DAY.	CYLINDER OIL.	LARD OIL.	BURNING OIL.	TALLOW.	WASTE.
	ENGINE No. 1.	ENGINE No. 2.	BY BOTH.	ENGINE No. 1.	ENGINE No. 2.	BY BOTH.	FEET.	POUNDS.	GALLONS.	GALLONS.	GALLONS.	POUNDS.	POUNDS.
May 10 to 31.................	26,645,712	66,408	26,712,120	1,402,406	3,494	1,405,900	....	5,994.53	18½	1	4½	18½	10
June..............................	43,909,776	....	43,909,776	1,688,837	....	1,688,837	....	5,427.26	13	1½	1½	15	12
July..............................	57,395,628	8,822,034	66,217,662	1,979,159	304,208	2,283,367	200.04	7,962.67	15½	3½	6	16	13
August..........................	63,874,232	11,611,304	75,485,436	2,060,459	374,555	2,435,014	199.87	8,019.87	18	6	6	52	15
September.....................	62,646,236	11,025,605	73,671,841	2,088,207	367,520	2,435,727	200.78	8,277.90	20½	4½	8	12	8
October.........................	64,035,624	13,948,432	77,984,116	2,065,667	449,949	2,515,616	200	8,271.87	30	6	14	14	13
November 1 to 10...........	20,733 408	4,657,660	25,391,068	2,073,340	465,766	2,539,106	200.86	7,595.80	10	2	6	6	9
Total.........................	339,240,676	50,131,343	389,372,019	1,908,297 Average.	327,582 Av'rage.	2,189,081 Average.	200.77 Average	7,364.27 Average.	125½	24½	46	133½	80

The largest quantity of water pumped in twenty-four hours was on August 30, when 2,805,044 gallons were supplied—each engine running twelve hours. This required the large engine to run at the rate of 4,886,568 gallons per twenty-four hours, and the small one at the rate of 733,520 gallons. From this it will be seen that at no time was either engine run to its full capacity.

TELEGRAPHY.

BUREAU OF TELEGRAPHY.

International Exhibition.

—1876—

NITED STATES CENTENNIAL COMMISSION.

au of Administration
TELEGRAPHY.

Philadelphia, January 1, 1877.

ON. A. T. GOSHORN,
Director-General International Exhibition.

IR,—I have the honor to transmit my report upon the introduction and use of the ous systems of Telegraphy operated in connection with the International Exhibition.

Very respectfully yours,

W. J. PHILIPS,
Telegraphic Director.

REPORT OF THE DIRECTOR

OF THE

BUREAU OF TELEGRAPHY.

Bureau of Telegraphy.

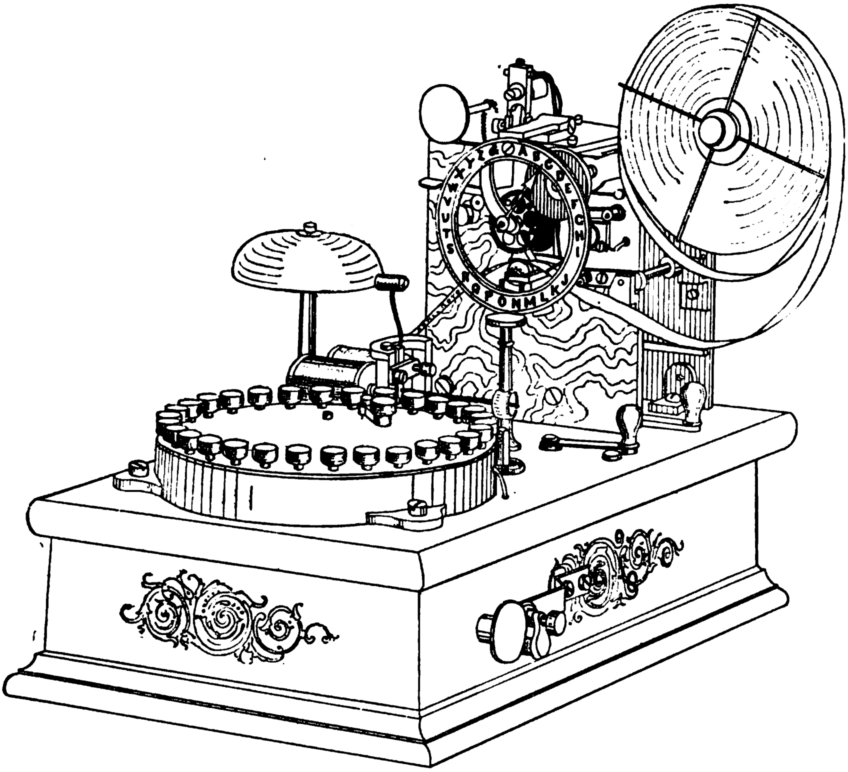
Early in the year 1873 there was constructed for the convenience of the United States Centennial Commission, and under my direction as Superintendent of the Department of Police and Fire-Alarm Telegraph of Philadelphia, a telegraph-line connecting the Central Office of the Police and Fire-Alarm Telegraph at the corner of Fifth and Chestnut Streets with the office of the Commission, No. 904 Walnut Street. This line was extended to the offices of the Board of Finance and those of the architects and contractors in the Exhibition grounds. Its daily use was of valuable service, since it was in advance of the extension of street railways and other regular means of communication to and from the Park. The length of wire was 4⅞ miles.

In August, 1875, there was also constructed a special line from the office of the Secretary of the Commission, No. 903 Walnut Street, to the office of the Chief of Bureau of Installation, on the grounds. This was further extended in March, 1876, to the office of the same Bureau in the Main Building. The Phelps & Philips patent printing telegraph instruments—remarkable for their accuracy and simplicity of operation, and not requiring experts—were used on this line, enabling the clerks and attachés to communicate with one another, thus saving the expense of employed operators. The length of these wires was 5 miles.

In September, 1875, when the Machinery Hall was nearly completed, it became necessary to provide for its protection in case of fire. I availed myself of the telegraphic and fire system used by the American District Telegraph Company of Philadelphia. The signal instruments of that company were placed throughout that building and connected with the necessary mechanism in the telegraph-office in the Board of Finance Building. The special officers and firemen of the District Telegraph Company were placed in charge of the fire-apparatus in Machinery Hall and other buildings, performing patrol and other duty day and night, until the organization of the Centennial Guards and Fire Department.

Bureau of Telegraphy.

In April, 1876, by order of the Director-General, the line connecting No. 903 Walnut Street with the office of the Chief of Bureau of Installation was extended to the United States Collector's office in the Custom House on Chestnut Street, to the United States Appraiser's city office on Second Street, and to his office on the grounds. This line was of great advantage to the Government officers, facilitating their operations and promoting the interests of foreign exhibitors by economizing both time and expense.



THE PHELPS AND PHILIPS PRINTING TELEGRAPH INSTRUMENT.

These several lines were operated by the employees of the various

Bureau of Telegraphy.

departments and exclusively for their business, so that no record of the number of messages sent and received has been preserved. It is, however, estimated that the daily average was not less than 1000 words sent to and from the several stations during the period of actual service, making a total of about 157,000 words.

The City Councils of Philadelphia, in December, 1875, in accordance with my official recommendation, made an appropriation for the extension of the lines of the Police and Fire-Alarm Telegraph, and for other telegraph facilities to the grounds. With this appropriation poles were erected on the west side of Belmont Avenue from the main entrance of the grounds to Lancaster Avenue. Over the larger portion of this distance 28 wires were placed, with a view of supplying facilities to the Western Union, Atlantic & Pacific and Franklin, Philadelphia & Reading, and American District Telegraph Companies, and the Police and Fire-Alarm Telegraph Department. The length of wires was 10½ miles.

The Atlantic & Pacific and Franklin Companies made a contract with the Centennial Board of Finance, on satisfactory terms and conditions, to establish their offices and to conduct their business within the grounds. The Western Union Company declined to accept a like proposition, and consequently had no office within the Exhibition grounds. The American District Telegraph Company and the Philadelphia & Reading Telegraph Company accepted a similar proposition.

In April, 1876, the wires of the Atlantic & Pacific and Franklin Telegraph Companies were introduced into the telegraph-office in the grounds. The wires of the Police and Fire-Alarm, and the American District Company had been already placed in operation.

In February, 1876, by request of the Terminal Agency, wires were run connecting the offices of that company in the United States Centennial Commission building with the several unloading platforms. At these points signal apparatus were arranged whereby the expeditious handling of goods and the prompt unloading of cars was greatly facilitated. This was the first instance of using such means in connection with Exhibitions. The length of wires was 1⅞ miles.

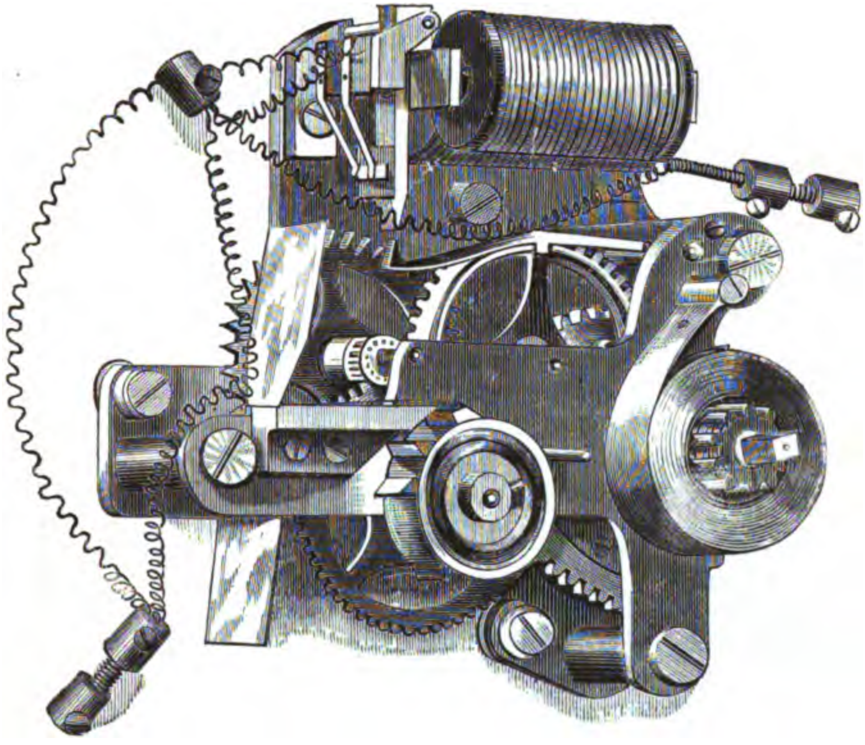
In February, 1876, the Centennial Fire Department was organized and went into regular operation. By direction of the chief of that department a complete system of fire-alarm telegraph was at once established throughout the grounds. The entire equipment of this telegraph, with all its apparatus, instruments, and fixtures, and their maintenance, exclusive of batteries, was a contribution by Messrs. Gamewell & Co., of New York, to the success of the Exhibition.

They also contributed $750 towards the erection of the building used by the Telegraphic Department. The length of these lines was 7⅛ miles.

Bureau of Telegraphy.

THE GAMEWELL & CO. FIRE-ALARM TELEGRAPH.

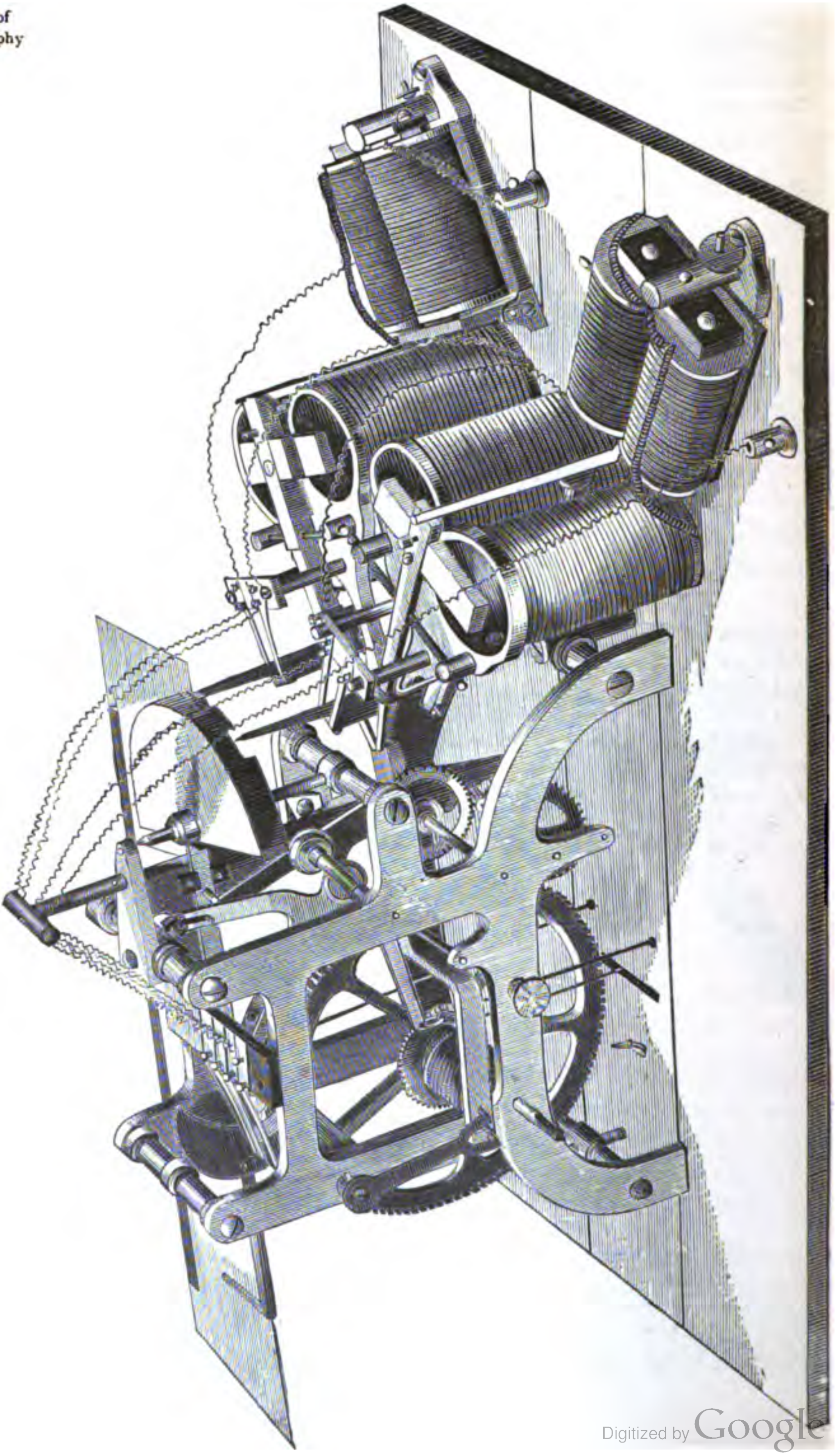
The fire-alarm telegraph within the grounds consisted of new and improved signal-boxes manufactured expressly for the purpose of communicating alarms of fire, and were located in different buildings and portions of the grounds, as hereinafter stated. They were automatic in their operation, and had the special advantage of a non-interference attachment, which effectually prevented duplicate alarms of fire from interfering with each other. They were located as follows:



THE AUTOMATIC SIGNAL BOX.

1. General Telegraph-Office.
2. West end Fire-Station, northwest corner Main Building.
3. North centre of Main Building.
4. Northwest centre tower, Main Building.
5. South centre of Main Building.

Bureau of Telegraphy



THE AUTOMATIC REPEATER.

Bureau of Telegraphy.

6. East end Fire-Station, southeast corner Main Building.
7. Fire Patrol, No. 2, east end Avenue of the Republic.
8. South entrance Art Annex.
9. South side Brewers' Hall.
10. Centre of Agricultural Hall.
11. Fire Patrol, No. 1, North Belmont Avenue.
12. Magistrate's Headquarters, west end Avenue of the Republic.
13. Machinery Hall, west end.
14. " " Annex No. 3, north entrance.
15. " " at Corliss Engine.
16. " " northeast corner.
17. Office Live-Stock Exhibition ground.

These boxes were all connected by the signal circuit wires with a very elaborate piece of mechanism, located in the General Telegraph Office, and known as an automatic non-interference repeater. By this instrument the alarms were received and simultaneously transmitted, without the aid of an operator, to the several engine-houses, etc., where automatic gong-apparatus (see page 728) were placed for receiving such alarms, thus avoiding any delay in their prompt transmission.

These gongs were located as follows:

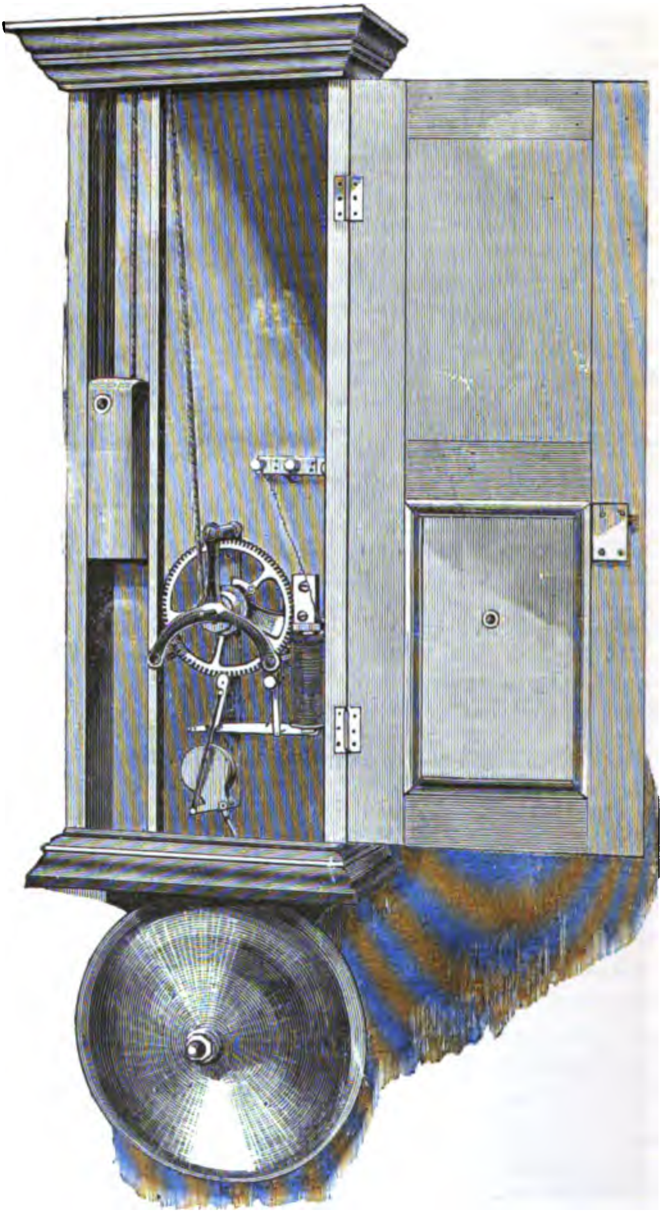
1. General Telegraph-Office.
2. West end Fire-Station, northwest of Main Building.
3. North centre gallery of Main Building.
4. East end Fire-Station, southeast of Main Building.
5. Fire Patrol, No. 2, east end Avenue of the Republic.
6. Pumping-Engine House, Schuylkill River, near grounds.
7. Fire Patrol, No. 1, North Belmont Avenue.
8. Magistrate's Headquarters, west end Avenue of the Republic.
9. Headquarters of the Fire Department, northeast corner Machinery Hall.
10. Police Headquarters, United States Centennial Commission Building.

The wires of the City Fire-Alarm Telegraph were also so arranged that in case the Fire Department of the city should be needed, immediate connection could be made, and the required aid obtained without delay.

It was a cause for congratulation that, with the elaborate preparation and protection afforded by the introduction and erection of this complete system of fire-alarm telegraph, the occasions for its use within the grounds were few, as may be seen in the following statement of alarms:

1876.
March 13, 4.30 P.M., Agricultural Hall.
April 12, 9.30 A.M., " "
" 16, 3.00 P.M., Model of Paris building.
" 19, 11.00 P.M., Barn, Fifty-second Street and Pennsylvania Railroad.
May 6, 12.00 M., Belmont Avenue and Avenue of the Republic.
" 27, 10.50 P.M., Government Building.

Bureau of Telegraphy.



THE ELECTRO-MECHANICAL GONG STRIKER.

Bureau of Telegraphy.

June	14,	11.45 A.M.,	Belmont and Landsdowne Avenues.
"	25,	9.30 A.M.,	Brazilian cotton exhibit, Agricultural Hall.
July	17,	12.30 A.M.,	Boiler House No. 5.
Aug.	26,	1.30 P.M.,	Box sheds near Atlas Hotel.
Sept.	9,	2.30 P.M.,	Stand opposite Canadian lumber exhibit.
"	9.	4.30 P.M.,	Elm Avenue opposite Main Building.
"	14,	1.30 P.M.,	Southern Restaurant.
"	28,	9.40 P.M.,	Pavilion, Landsdowne and Belmont Avenues.
Oct.	2,	10.45 A.M.,	Glass magazine.
"	5,	6.40 P.M.,	Lauber's Restaurant.
"	7,	11.15 P.M.,	Elm Avenue and Forty-second Street.
"	9,	5.25 P.M.,	Gillender Glass Works.
"	10,	5.50 P.M.,	Lafayette Restaurant.
"	19,	8.00 P.M.,	Police station, George's Hill.
Dec.	16,	10.45 A.M.,	Metropolitan Hotel, Forty-first Street.

WATER DEPARTMENT TELEGRAPH-LINE.

In May, 1876, a telegraph-line was constructed from the General Telegraph-Office to the office of the Centennial Water Department, located in the Pumping-Engine House on the banks of the river Schuylkill. It was used constantly for the purpose of regulating the supply of water and facilitating the operations of that department. The Gray & Barton printing instrument used on this line was loaned by the Western Electric Manufacturing Company, of Chicago. This company also gratuitously furnished like instruments for use in several other buildings within the Exhibition grounds. The length of wire was ⅜ of a mile.

POLICE TELEGRAPH.

In April, 1876, wires for police purposes were erected leading from the General Telegraph-Office to the Main Building, the Machinery Hall, and the headquarters of the Reserve Guard.

In the Main Building this police wire was extended so that 42 police signal instruments, located at the several doors of entrance and throughout the centre of the building, were connected in one circuit with the police headquarters therein, and the telegraph-office in the main aisle. The instruments were those of the American District Telegraph Company, especially manufactured and adapted for this purpose by Watts & Co., of Baltimore, Maryland. The signals were as follows:

1. Messenger.
2. Guard or policeman.
3. Reserve Guard.
4. Hospital stretcher.
5. Fire.

Bureau of Telegraphy.

In the Machinery Hall a similar system was perfected, with 38 instruments in circuit, connected with the police headquarters and telegraph-office in that building. In addition to the police signal instruments mentioned above, the Philips' watchmen's signal and recording instruments were placed in the upper east, north, and west galleries. Officers patroling the building communicated to the headquarters their visits, also leaving a record within the instrument of the hour and minute of each visit. This feature was here introduced for the first time.

Another wire was extended, connecting the headquarters of the Guard and the telegraph-office in each building with the office in the building of the Reserve Guard. The signals from all the police instruments were received and recorded in the telegraph-offices in both buildings on an automatic self-starting register, and re-transmitted to the headquarters of the Guard, where they were received on bell magnets.

Still another wire was erected, connecting the office of the Colonel commanding with the offices of the Committing Magistrate and the Major of the Guard, and equipped with the Gray & Barton printing instruments.

The wires of the police telegraph of the City of Philadelphia were extended within the grounds and connected with the office of the Committing Magistrate, thus placing all parts of the Exhibition in direct communication with the Mayor, Chief of Police, and the entire police force of the city. The length of wires was 9¾ miles.

CENTENNIAL LOCAL TELEGRAPH.

In April, 1876, the construction of the local lines within the grounds was commenced. Temporary offices were opened in the Judges' Hall, Main Building, Machinery Hall, and Agricultural Hall. On May 5 a temporary General Telegraph-Office was opened in the east end of the building in course of erection for that purpose. The permanent offices were opened as rapidly as they were fitted up, and were located as follows:

1, 2. Main Building—east and west of centre in main aisle.
3, 4. Machinery Hall—north aisle east, and south aisle west, of centre.
5. Agricultural Hall—centre of nave.
6. United States Government Building—centre.
7. Women's Pavilion—western entrance.
8. American Restaurant—northern entrance.
9. Kansas and Colorado Building—southern entrance.
10. Massachusetts State Building—post-office.
11. Philadelphia Municipal Building.

Bureau of Telegraphy.

The structures for these offices were erected by the Centennial Board of Finance, from designs prepared by the Chief of the Bureau of Installation. They were fitted up and equipped at the expense of the District Telegraph Company, and were used for the reception of telegrams for transmission and delivery to and from all parts of the world; as offices of general information; for the restoration of lost children; for the messenger service of the District Telegraph Company within the grounds and city, and as signal-stations for the police and fire-alarm telegraph. The length of wires was 3⅞ miles.

The Phelps & Philips printing telegraph instruments were used in all these offices.

THE GENERAL TELEGRAPH-OFFICE.

The office was located in the east end of the building occupied by the Department of Public Comfort. This portion was erected by the Centennial Board of Finance, assisted by contributions as follows:

City of Philadelphia	$1500
District Telegraph Company	$750
Gamewell & Co.	$750

In consequence of the contractor's delay, the building was not completed for permanent occupancy and use until the latter part of June, subjecting the officers and operators to great inconvenience in conducting the rapidly-increased business on all the lines.

At this time the following lines were in successful operation:

4 direct wires of the Atlantic & Pacific and Franklin Telegraph Companies, connecting with Washington, Baltimore, New York, and all parts of the United States and Canada reached by the lines of these companies, and vià direct cable to Europe.

4 wires connecting with the same companies at the offices at Third and Chestnut Streets, Philadelphia.

4 wires of the American District Telegraph Company connecting their numerous offices throughout the grounds, in the city, and in the Pennsylvania Railroad Depot. The length of line was 19¾ miles.

1 wire connecting with the General Office of the Philadelphia, Reading, & Pottsville Telegraph Company.

2 wires connecting with the Central Office of the Police Telegraph of the City of Philadelphia.

2 wires of the Fire-Alarm Telegraph of the city.

6 wires of the Centennial Local Telegraph.

6 wires of the Centennial District Telegraph.

4 wires of Gamewell & Co. Fire Telegraph.

5 wires, miscellaneous, within the grounds.

1 wire to the office of the United States Centennial Commission, 903 Walnut Street.

1 wire to the United States Appraiser's Office and Custom House.

1 wire for the Signal Service, United States Government.

Total, 41 wires.

Bureau of Telegraphy.

As the system of telegraphy in the United States International Exhibition was more elaborate and complete than that of any former Exhibition, it is proper to give as far as possible the details of the working and results of the various lines operated during its progress. As a special exhibit it attracted the attention of a large portion of the Foreign Commissioners, exhibitors, and scientific visitors to the Exhibition.

ATLANTIC & PACIFIC AND FRANKLIN TELEGRAPH COMPANIES.

The instruments used by these companies for receiving and transmitting foreign and domestic telegrams were the ordinary Morse key and sounder; the duplex, by which messages were sent and received at the same time on one wire; and the automatic system, so rapid in its operation that telegrams were transmitted at the rate of over 1000 words per minute. This wonderful achievement elicited the highest praise from Sir William Thomson and other scientific gentlemen who witnessed the operation.

MESSAGES SENT AND RECEIVED.

SENT TO	MAY 10–31.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	OCTOBER.	NOVEMBER 1–10.	TOTAL.
New York	1,363	2,521	1,417	1,389	3,514	4,683	1,530	16,417
Baltimore	172	280	187	193	702	921	174	2,629
Washington	138	212	146	152	564	743	135	2,090
Boston	104	163	112	109	427	564	97	1,576
Cincinnati	56	79	62	67	218	283	49	814
Chicago	35	57	31	38	143	191	33	528
Cleveland	21	34	23	19	85	113	19	314
St. Louis	16	29	17	24	72	96	13	267
San Francisco	12	21	15	12	56	71	9	196
Toronto	26	41	28	33	107	146	24	405
By Atlantic Cables	31	57	33	29	81	88	34	353
Miscellaneous	1,537	2,416	1,642	1,839	2,987	4,023	1,822	16,266
Total sent	3,511	5,910	3,713	3,904	8,956	11,922	3,039	41,855
RECEIVED FROM ALL QUARTERS	1,832	3,158	1,467	2,243	4,837	4,784	1,609	19,930
Total sent and received.	5,343	9,068	5,180	6,147	13,793	16,706	5,548	61,785

THE AMERICAN DISTRICT TELEGRAPH COMPANY.

The introduction of this system into the Exhibition was entirely novel and of great practical service in its workings and results. Its operations were varied as follows:

I. LOCAL LINES.—The local business comprised all the messages

Bureau of Telegraphy.

that were received over the wires of the Atlantic & Pacific and Franklin Telegraph Companies, Philadelphia & Reading, and the city or local lines, which were transmitted to the various buildings within the grounds and delivered by the messengers of this company. Messages to and from different parts of the ground were also transmitted and delivered. The instruments used were the Phelps & Philips printing telegraph. The length of wires was 5⅜ miles. The number of messages delivered within the grounds from the several stations and the General Office was as follows:

	May 10–31.	June.	July.	August.	September.	October.	November 1–10.	Total.
District Telegraph Co.	Sent....1,703	2,970	1,822	1,893	3,630	4,187	1,724	17,929
	Rec'd.. 902	1,605	9,05	720	2.470	2,529	798	9,929
Other companies............	5,343	9,068	5,180	6,147	13,793	16,706	5,548	61,785
Totals........................	7,948	13,643	7,907	8,760	19,893	23,422	8,070	89,643

II. Messenger Signal Telegraph.—The wires were extended throughout the grounds and various buildings. Signal instruments for summoning messengers were located as follows:

MAIN BUILDING.

1. Office of the Bureau of Installation.
2. “ “ French Commission.
3. “ “ British “
4. Office of the Spanish Commission.
5. “ “ Centennial Guard.
6. “ “ Chief Janitor.

MACHINERY HALL.

7. Headquarters of the Fire Department.
8. Office of the Bureau of Machinery.
9. Office of the Centennial Guard.
10. “ “ Catalogue Department.

UNITED STATES CENTENNIAL COMMISSION BUILDING.

11. Office of the Director-General.
12. “ “ Secretary.
13. “ “ Bureau of Transportation.
14. “ “ “ “ Information.
15. Office of the Department of the Press.
16. “ “ Centennial Terminal Agency.
17. Office of the Centennial Guard.

CENTENNIAL BOARD OF FINANCE BUILDING.

18. Office of the Bureau of Admissions.
19. “ “ Chief of Bureau of Installation.
20. Office of the Bureau of Information.
21. “ “ Architect.
22. Office of the United States Appraiser of Customs.
23. Office of the United States Surveyor of Customs.

Bureau of Telegraphy.

MISCELLANEOUS.

24. Rolling Chair Co., Main Building Annex.
25. Singer Manufacturing Co.'s Building.
26. Memorial Hall.
27. Art Annex.
28. Vienna Bakery.
29. Fire Patrol, No. 2.
30. Headquarters of the Press.
31. Baggage-Room, Department of Public Comfort.
32. Office of the Committee on Concessions, Judges' Hall.
33. Office of the Catalogue Department, Judges' Hall.
34. Brazilian Pavilion.
35. Horticultural Hall.
36. Lauber's Restaurant.
37. Lafayette Restaurant.
38. Agricultural Hall.
39. Women's Pavilion.
40. Frank Leslie's Pavilion.
41. New York *Tribune* Building.
42. Rowell's Newspaper Building.
43. Pacific Guano Co.'s Building.
44. United States Government Building.
45. Fire Patrol, No. 1.
46. Massachusetts State Building.
47. St. George's (English) Building.
48. Vermont State Building.
49. Philadelphia Municipal Building.
50. Machinery Hall Annex, No. 3.
51. Campbell's Printing-Press Building.

Total number of instruments, 51.

By means of these instruments the number of calls was 6983,—viz.:

	May 10–31.	June.	July.	August.	September.	October.	November 1–10.	Total.
No. of calls	958	1,261	1,031	989	1,232	1,208	304	6,983
Miles traveled	7,425	7,642	7,271	6,452	8,176	8,948	3,120	49,034
Totals	8,383	8,903	8,302	7,441	9,408	10,156	3,424	56,017

DISTRICT INSTRUMENT.

The messengers delivered 4167 notes and parcels throughout the grounds and in all parts of the buildings, and in addition thereto performed a large miscellaneous service, such as taking charge of ladies and children and visitors generally, escorting them to railroad depots, hotels, boarding-houses, and such other points as were required, carrying light baggage, etc. They were also largely employed in the distribution of cards and circulars for exhibitors, in taking charge of exhibits,—in many instances acting as clerks,—and also taking charge of office business for exhibitors, and in the various departments of the Exhibition. They were employed frequently in financial business, making deposits of money in the various banks in the city, collecting checks, bills, etc. All

Bureau of Telegraphy

this various service was performed to the entire satisfaction of all concerned, and without the loss of a single package or the smallest sum of money.

By the use of the district instruments the aid of the special police attached to the District Company was required on several occasions, and invariably gave entire satisfaction. These instruments were contributed by Messrs. Watts & Co., Baltimore, Maryland.

UNITED STATES SIGNAL SERVICE TELEGRAPH.

By authority of the Director-General a wire was erected from the office of the United States Signal Service, at the Merchants' Exchange in the city, to the office in the United States Government Building in the grounds. This line was considered very useful and valuable, both to the service and the Government. The length of wire was 5 miles.

MISCELLANEOUS TELEGRAPH LINES.

The Gamewell & Co. fire-alarm automatic gong instruments were placed in Machinery Hall, one being attached to the Corliss engine. These gongs were sounded by electricity five minutes before the time fixed for starting and stopping the engine. They were easily heard in all parts of the building, and their use was to give notice to exhibitors to have their machinery prepared accordingly. The signals were given from the office of the Superintendent of Machinery. The length of wire was ¾ of a mile.

During the exhibition of Live-Stock, a special telegraph-line was constructed from the General Telegraph-Office to the office of the Live-Stock Exhibition, thus placing the chief of that department, at Agricultural Hall, in direct communication with his subordinates. This line was much used and of great practical value. The length of wire was 1⅛ miles.

For the convenience of the British Commission one of the main wires of the District Telegraph Company was connected with the office of Peter Wright & Sons, No. 307 Walnut Street, thus facilitating their operations previous to and during the Exhibition.

It was also found necessary to construct a line connecting the General Telegraph-Office with those of the Chief of Bureau of Installation, Chief of the Bureau of Machinery, and the Director-General, thus establishing direct communication between all of these offices. This line was equipped with the Gray & Barton printing telegraph instruments, and was of very great service. The length of wire was 1¼ miles.

Bureau of Telegraphy.

On the opening day of the Exhibition a special wire was arranged connecting the orchestral platform with the chime of bells on Machinery Hall, by means of which signals were transmitted indicating the proper interval for the bells to accompany the music of the orchestra.

On the closing day of the Exhibition a line was extended from the General Telegraph-Office to the speakers' platform in Judges' Hall, and connected with the system of gongs in Machinery Hall used in starting and stopping the engine. At 3.37 P.M., on that day, the President of the United States gave the signal which, passing over this line, stopped the engine; and the announcement was made to the world, through all the offices of the country, that the great International Exhibition of 1876 was closed.

UNDERGROUND TELEGRAPH.

As it seemed objectionable to erect telegraph-poles within the grounds, all of the outside lines were connected at the pole erected within the building occupied by the United States Centennial Commission with a cable laid underground from this point to the General Telegraph-Office. As the subject of underground telegraph communication had been agitated in this country for many years, it was deemed advisable to give inventors an opportunity to demonstrate the practicability of their several expedients. The cable here used was the invention of Mr. David Brooks, of Philadelphia, and consisted of an iron pipe in which were placed fifty covered copper wires. The pipe was then filled with paraffine oil. It worked very satisfactorily for a short time, but, owing to the constant passage over it of heavy engines and cars on the track of the Pennsylvania Railroad, and also to the probable settling of the track, the cable became damaged at this point and its use was abandoned, the wires being carried over the top of the Main Building. As a test of the practicability of underground lines it was considered a success. It will no doubt lead to its introduction in Philadelphia and elsewhere. The length of wire was ⅞ of a mile.

ADMISSION TELEGRAPH.

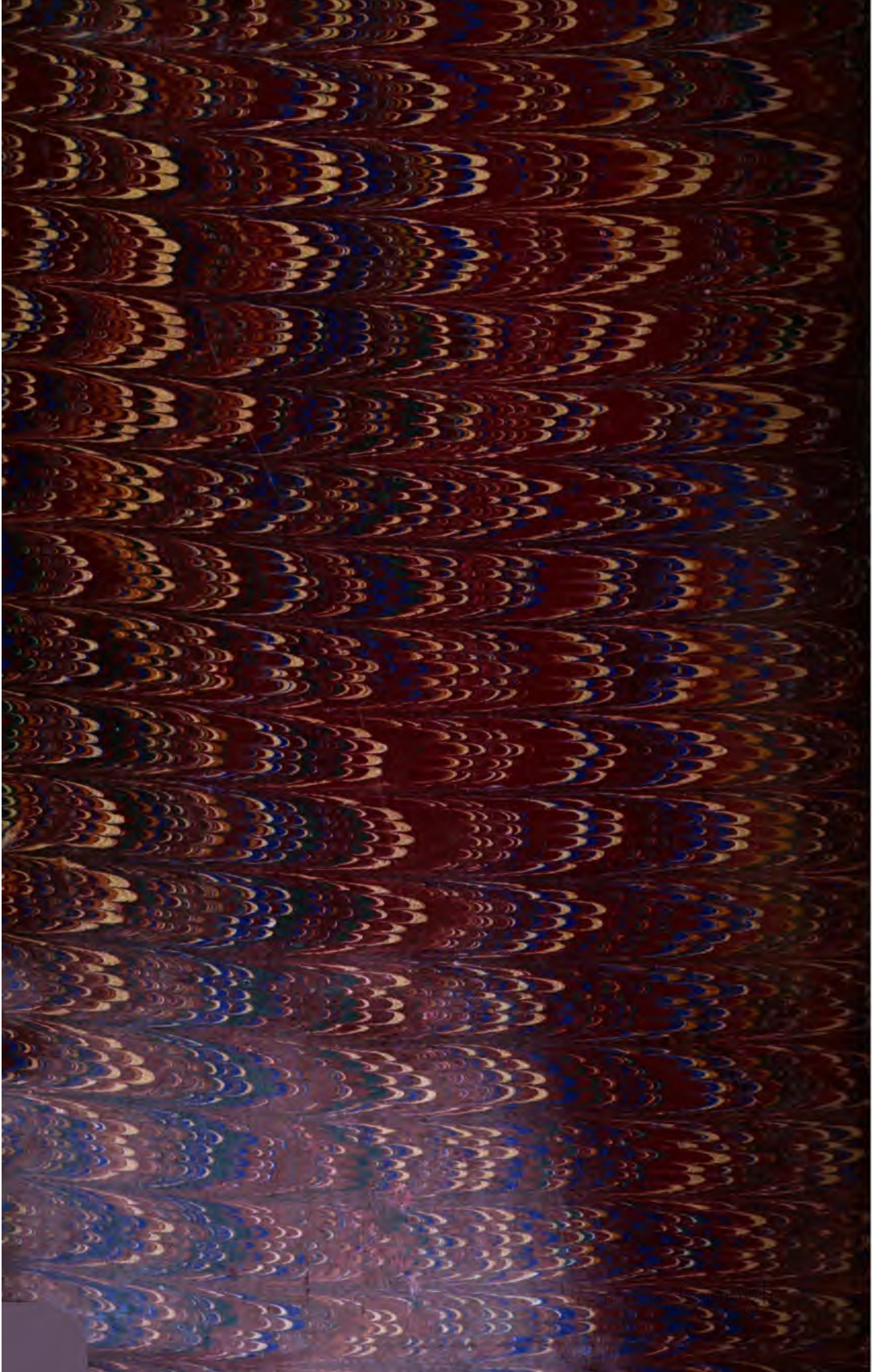
Before the opening of the Exhibition it was suggested that a telegraphic record of all the admissions through the different turnstiles could be made in the office of the Department of Admissions. I considered it feasible and desirable, and caused lines to be constructed accordingly. A separate wire was run from each turnstile register to that office, and put into operation. The manufacturer who had the

Bureau of Telegraphy.

contract for the turnstile registry also contracted to supply the telegraphic register, the design and principle being his own; but after experimenting for some time he abandoned the undertaking, and as there was not sufficient time for others to construct the necessary mechanism, this plan was abandoned, much to the regret of the Chief of the Bureau of Admissions and my own. Eighteen of these turnstile wires were laid underground by the inventor and patentee of another system, William Radde, of New York, the construction being somewhat different from the other cable used,—namely, copper wires without covering, in glass tubes, these tubes being placed in an iron pipe and held in position by paraffine wax. All the tests and experiments made with this cable have proved very satisfactory. The only doubt as to its general use arises from its cost, this mode being quite expensive. The length of wires was 26½ miles, including ⅛ mile underground. The total miles of wire were 104.

In closing this report as Telegraphic Director for the United States Centennial Commission, it is a source of gratification to me to know that the system of telegraphy at the Exhibition far exceeded in detail and general adaptation to the wants of the various departments anything previously attempted.

In a scientific point of view, the benefits to the community from its introduction have already been made apparent. Numerous letters have been received by myself and others, from foreign countries and different parts of our own country, asking for information in relation to the purchase of instruments and as to the systems used.



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